



Final report European Core Indicators in Diabetes project

Grant Agreement 2005109

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SUMMARY

Aim: The aim of European Core Indicators in Diabetes (EUCID) is to collect and compare data about risk factors for diabetes, complications and quality of care indicators in member or future member countries of the European Union.

Methods: 19 countries provided data for a list of indicators by age band which were representative at a regional or a national level for 2004, 2005 or 2006. Methods (surveys, registries, administrative databases) were provided. Data were age-standardized for comparisons performed in the general population when possible, or representative regional population if national was not possible.

Results: Many results are available and each has a value in it's own. Some striking results were:

- Among the least available indicators, incidence of blindness in people with diabetes was provided by only 4 countries, and impaired fasting glucose in general population by 2.
- The standardized prevalence of diabetes varied from 2.6% in Finland to 7.6% in Cyprus; crude incidence of diabetes (0-14 yrs) from 11 in Spain to 60 per 100,000 in Finland; standardized prevalence of overweight (25-74 yrs) from 37% in Germany to 60% in Cyprus; standardized mortality rates linked with diabetes from 7 in Luxembourg to 56 per 100,000 in Finland.
- Among people with diabetes (>25 yrs), process indicators ranged: for HbA1c testing once a year, from 51% in Ireland to 99% in the Netherlands, France and Belgium; for lipid testing, from 45% in Ireland to 99% in the Netherlands; for microalbuminuria testing, from 25% in Finland to 97% in the Netherlands; for fundus examination, from 12% in Ireland to 84% in the Netherlands.
- Risk factors in people with diabetes varied: HbA1c>7%, 32% in Ireland to 83% in Cyprus; total cholesterol>5mmol/l, 14% in Ireland to 68% in Cyprus; microalbuminuria, 9% in Finland to 41% in England; blood pressure>140/90mmHg, 17% in France to 46% in Sweden; smoking, 10% in Ireland to 37% in Denmark.
- Complication incidence rates were: dialysis and transplantation, 4 in Cyprus to 149 per 100,000 diabetes clients in Scotland; stroke, 37 in Cyprus to 2675 in Germany; myocardial infarction, 21 in Cyprus to 2135 in Austria; major amputation, 78 in Scotland to 574 in Spain.

Conclusions: while European epidemiologic systems can provide diabetes indicators, major indicators as blindness are still missing. Most of the European countries achieve remarkable good testing of people with diabetes. Risk factors and outcomes vary across countries, reflecting a mixture of genetic background, societal and cultural factors, as well as public health politics. The results of EUCID will be used within countries to try to influence these policies.

INTRODUCTION

Burden of diabetes

Diabetes mellitus is a growing burden for all the countries in the world. The International Diabetes Federation (IDF) estimates that the number of people with diabetes will grow from 194 millions in 2003 to 333 millions in 2025 (Diabetes Atlas, third edition, International Diabetes Federation, 2007). The increase will occur both in the industrialized countries and, particularly in the developing countries. Estimates were predicted from projections of known growing prevalence numbers. (table 1)

Not only the diagnosis of diabetes and the treatment of its characteristic, elevated blood glucose (hyperglycemia), are important in the societal burden of diabetes, but especially the complications that are consequent to diabetes. Microvascular disease (neuropathy, retinopathy and nephropathy) and macrovascular disease (heart, cerebral and peripheral vessels) generate the most important long term complications of diabetes. The national numbers for these complications are not very well known on a comparable international basis.

A growing number of all populations in the world are in a state of impaired glucose tolerance or impaired fasting glucose and are therefore at risk for developing diabetes. About 10% of this group will develop diabetes annually. The IDF estimates this number to be 50% higher than the population with diabetes. (table 1)

All diabetes and IGT	2003	2025
Total world population (billions)	6.3	8.0
Adult population (billions) (20-79 years)	3.8	5.3
Number of people with diabetes (millions) (20-79 years)	194	333
World diabetes prevalence (%) (20-79 years)	5.1	6.3
Number of people with IGT (millions) (20-79 years)	314	472
IGT prevalence (%) (20-79 years)	8.2	9.0

Table 1: IDF estimates of the global burden of diabetes in 2003 and 2025 (Diabetes Atlas, second edition, International Diabetes Federation, 2005).

Inside Europe the growth will be relatively smaller than in the other global regions as estimated by the IDF (table 2), but the burden will nevertheless increase by an estimated 7.8% in 2003 to 9.1% in 2025 in the population between 20 and 79 years old.

Table 1.1**Regional estimates for diabetes and impaired glucose tolerance (20-79 age group), 2003 and 2025**

Region	2003					2025				
	Population (20-79)	No. of people with diabetes	Diabetes prevalence	No. of people with IGT	IGT prevalence	Population (20-79)	No. of people with diabetes	Diabetes prevalence	No. of people with IGT	IGT prevalence
	(millions)	(millions)	(%)	(millions)	(%)	(millions)	(millions)	(%)	(millions)	(%)
AFR	295	7.1	2.4	21.4	7.3	541	15.0	2.8	39.4	7.3
EMME	276	19.2	7.0	18.7	6.8	494	39.4	8.0	36.5	7.4
EUR	621	48.4	7.8	63.2	10.2	646	58.6	9.1	70.6	10.9
NA	290	23.0	7.9	20.3	7.0	374	36.2	9.7	29.6	7.9
SACA	252	14.2	5.6	18.5	7.3	364	26.2	7.2	29.5	8.1
SEA	705	39.3	5.6	93.4	13.2	1,081	81.6	7.5	146.3	13.5
WP	1,384	43.0	3.1	78.5	5.7	1,751	75.8	4.3	120.2	6.9
Total	3,823	194	5.1	314	8.2	5,251	333	6.3	472	9.0

Table 2: Estimates of the number of patients with diabetes and impaired glucose tolerance according to the IDF diabetes atlas (Diabetes Atlas 2005)

However all these numbers were estimates and are not reliable. Moreover, these numbers are not available on the website of the Public Health system of the EU.

EUDIP

From 2000 until 2002 a project was sponsored by DG-SANCO called European Diabetes Indicator Project (EUDIP). The aim of the project was the “establishment of indicators monitoring diabetes and its morbidity” on a national level. A set of indicators was constructed and tested for feasibility. The result was a set of core and secondary indicators that are feasible to collect on a national basis. The end report was published in December 2002.

The availability of the data was dependent on the monitoring systems in the collaborating countries. Some indicators were widely available and some only in few countries. Also the types of databases, from which the data were derived, were different as were the ways of data collection. As a consequence the comparability of the national indicators was often not straight forward, but very complicated.

The discussion in the EUDIP project resulted in a list of core and secondary indicators.

Final EUDIP shortlist of indicators for diabetes mellitus

Core indicators (CI) / Second indicators (SI)

RISK FACTORS FOR TYPE 2 DIABETES

- Obesity
 - BMI - % of general population ≥ 30 kg/m² (CI)

EPIDEMIOLOGY OF DIABETES

- Annual incidence of Type 1 diabetes by age/100,000 population 0-14 yrs, (CI)
- Prevalence of diabetes mellitus /1000 population (CI)
- Prevalence of persons with impaired glucose tolerance and or, dietary regulation only (SI)

RISK FACTORS FOR COMPLICATIONS (in people with diabetes)

- HbA1c
 - Percent tested in last 12 months (SI)
 - Percent >7.5% in last 12 months (SI)
- Lipids
 - Percent with lipid profile in last 12 months* (SI)
 - Percent of those tested with total cholesterol >5 mmol/l (SI)
 - Percent with LDL >2.6 mmol/l (>3 mmol/l) (SI)
 - Percent with HDL <1.15 mmol/l (<1.0 mmol/l) (SI)
 - Percent with triglycerides >2.3 mmol/l (>2.0 mmol/l) (SI)
- Microalbuminuria
 - Percent tested in last 12 m* (SI)
 - Percent with microalbuminuria in last 12 m (SI)
- Blood pressure
 - Percent tested in last 12 m (SI)
 - Percent with BP >140/90 in last 12 m (SI)
- Smoking
 - Percent of the persons with diabetes who are smoking (SI)
- Overweight and obesity
 - Percent with BMI ≥ 25 kg/m² (SI)
 - Percent with BMI ≥ 30 kg/m² (SI)
- Age at diagnosis
 - Age at diagnosis by 10 year age bands (SI)

EPIDEMIOLOGY OF COMPLICATIONS

- Retinopathy
 - Percent with fundus inspection in last 12m (SI)
 - Percent with proliferate retinopathy in last 12m (SI)
 - Percent who received laser treatment <3 months after diagnosis (SI)
 - Annual incidence of blindness due to diabetic retinopathy/total annual incidence of blindness (CI)
- Nephropathy
 - Percent with serum creatinine tested in last 12 m (SI)
 - Percent with ESRF - serum creatinine ≥ 400 μ mol/l (WHO definition) - in last 12 months (SI)
 - Annual incidence of dialysis and or transplantation (renal replacement therapy in patients with diabetes/1,000,000 general population (CI)
 - Prevalence (stock) of dialysis/ transplantation (renal replacement therapy) in patients with diabetes/1,000,000 general population (SI)
- Mortality
 - Annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population (CI)
 - Annual death rate in the general population from all causes/100,000 general population, adjusted for European Standard Population (CI)

Aim of the EUCID project

Diabetes Mellitus is a growing burden also for the countries of the EC: the prevalence is expected to increase from approximately 3% currently to 5% in the next 15 years. This will result in a higher pressure on the health care systems. The proper way to keep on providing good care to the diabetic population is an enhanced effectiveness of care. To achieve this, proper health care planning is necessary. To this end, it is mandatory to collect data on the indicators of the population at risk for diabetes and on the process and outcomes of the care for the individuals who already have diabetes. Comparing the outcomes of the different countries of the EC will lead to ideas for better efficiency, using the best practices in the different health care systems.

After completion of EUDIP a consortium was formed to collect the indicators in the EU countries and future member states. The aim of the European Core Indicators in Diabetes (EUCID) project was defined as follows:

“The European Core Indicators for Diabetes Mellitus project will set up a stable organization to collect and analyse data on health status and care delivery for diabetes mellitus in the EU countries and the future member states in order to promote the planning for a good diabetes health status and diabetes care organization in the different countries.”

Several objectives were formulated for the project:

The first objective is to show the feasibility of the data collection.

The second objective is to create a stable platform for the data collection.

The third objective is to create a reporting platform for the indicators using the existing structure of the EC.

The first task was the enrolment of as many of the EU and future EU countries as possible that have not yet agreed to participate in the project.

The second task was the preparation and actual first start up meeting of the complete group to agree on the methodology to collect the data for the core indicators as agreed during the EUDIP project.

The third task was the support to the participating countries to collect the data. If necessary individual partners would be visited. A core group would meet at least once to discuss solutions for data collection.

The fourth task was to discuss the dataset with the complete group and agree on a reporting system for the indicators.

Based on the results of the fourth task the core group would prepare a report with the outcomes. This took several meetings. During this phase countries having difficulties in collecting the data would be supported in looking for solutions.

The last task was the final agreement on the report by the complete group and proposals for a stable reporting system in the future.

DG-SANCO grant



The project received a grant from DG-SANCO that supported 60% of the expenses. The other 40% was provided by the collaborating institutions. The grant agreement number is 2005109.

METHODOLOGY

Selection of countries

The aim of the European Core Indicators in Diabetes (EUCID) project is to collect and distribute data about risk factors for diabetes and the quality of diabetes care in as many countries and future member state countries of the European Union (EU) as possible. The project is looking for national or representative regional data. For this reason either national institutes or regional initiatives with sufficient coverage were approached. If in a country there was no known epidemiological contact the ministry of health was approached and asked for contacts inside the country. The list of collaborating centres of the previous European Diabetes Indicators Project (EUDIP) was very helpful since these organisations were already involved in the pilot phase.

Process of selection

All institutes that were involved in the pilot project (EUDIP) were asked to join. Almost all of them agreed to participate. For the other countries the ministries of health were asked and, if known, the national institute of medical statistics was contacted. The Best Information through Regional Outcomes (BIRO) project also provided valuable contacts for participant partners. The contacts with the ministries were least positive; mostly, after the first reaction no follow up contact could be established. Several countries, however, were positive in this aspect, e.g. Turkey.

There was one disappointing reaction from the authorities in Brussels: After much effort we found a collaborating centre in Croatia that has national data on diabetes care and risk factors for diabetes. All the paperwork was done in time and then the collaboration was refused by Brussels because Croatia failed to sign a certain epidemiology contract with the EU.

Final list of countries

Each partner in the project had to hand in a lot of papers to be admitted. Often these papers had to be signed by the head of the organisation and this was not an easy task for the people involved in the project. For one of the partners, Scotland, it was not possible for legal reasons to sign the financial indemnity to the contracting partner CBO. So for this partner a separate side contract had to be made and this final contract had to be signed by CBO as contracting partner and the University of Dundee as partner as well. This was one of the factors that delayed the final signing of the contract. The final contract was signed in December 2006, while the project was already running from January 2006. While there was no contract and no resources the partners started the project being confident that all the paperwork would be ready in due time and the project would be successful.

Table 4: The final list of collaborating institutes of the contract

Country	Organisation
Austria	Universitätsklinik für Kinder- und Jugendheilkunde
Belgium	Scientific Institute of Public Health, WIV-ISP Brussels
Cyprus	Ministry of Health, Health Monitoring Unit
Denmark	Danish Diabetes Database
England	Yorkshire and Humber Public Health Observatory, University of York
Finland	KTL, National Public Health Institute
France	Institut de Veille Sanitaire
Germany	Hospital GK Havelhoehe
Greece	Hippocrateion Hospital
Ireland	The Adelaide & Meath Hospital
Italy	Associazione Medice Diabetologi
Luxembourg	Centre Hospitalier de Luxembourg
Portugal	Direcção-General da Saúde, Ministerio da Saude
Romania	Institute of Diabetes "N. Paulescu"
Scotland	University of Dundee, Ninewells Hospital and Medical School
Spain	Consejería Salud, Delegación Provincial de Málaga
Sweden	NEPI Foundation
The Netherlands	Dutch Institute of Health Care Improvement CBO
Turkey	Turkish Diabetes Foundation

* More information about the collaborating persons and the institutions are provided in Annex 2.

Two countries were lost to collaboration during the process of signing the contract:

1. Croatia because the EC did not agree on cooperation as stated above.
2. Hungary because the contact, prof. Thamaz, did not answer any more to many emails and could not be traced by phone. Other contacts in Hungary did not succeed.

Poland, not being inside the contract, provided data on one indicator. Premka Chabot, a paediatrician from Upper Silesia, delivered her regional data.

Contacts with several other countries like Malta, Iceland, Norway, Latvia, Estonia, Czech Republic, Bulgaria and Lithuania did not work out in time.



Figure 1: map of Europe containing the collaborating countries of the EUCID project.

Selection of indicators

To compare diabetes data amongst countries it is very important to know how comparable the data are and to ascertain that the same definitions are used. The task was to define an unambiguous description of the indicators and the databases they were derived. The list of indicators was already defined by the EUDIP project; however, to make them interoperable, the partners had to agree upon the definitions of the indicators and indeed also on the list of indicators.

During the first plenary meeting of the EUCID project group the indicators were discussed at length. The main task of the first meeting was indeed to define the indicators.

To make the data comparable the indicators for the general population need to be standardised by the age structure of the European population (IARC-1976). Therefore we needed the indicator data in age bands of 10 years. We also needed the age bands to recalculate the crude rates to crude rates of the same age groups. During the start up meeting we had long discussions if we should also ask for age bands for all indicators and if

this was feasible. The group decided that the data would be more comparable if age bands would be provided for the indicators. So the EUCID group agreed that the indicators should also be given in age bands if possible, if not just the global indicator should be provided. In **Appendix 3** the code book is described in detail.

Data sources

For most countries complete national data were not available and the indicators therefore are derived from many different sources. We had to be sure that we knew where the data came from to see if the indicators would be comparable. The epidemiologists in the project defined questions that had to be answered to describe the database where the indicators were derived from. This resulted in a code book, that was finalized after several rounds of updates of the document by electronic means and telephone conferences.

Four groups of data sources were identified: national complete, national sample, regional complete and regional sample. For each of these sources questions were developed to describe the data source. The code book in **Appendix 3** describes these questions in detail.

Web-based data entry

A web application was built to facilitate the data entry. The website consists of a public part and a members part (login and password required). The public part explains the goal of EUCID, gives an overview of all EUCID partners and shows the final report of EUDIP. There are links to BIRO and DG-SANCO. A special section provides information for countries that were not yet in the EUCID project but might be interested to participate without payment of DG-SANCO.

Most important however is the part where the partners could do their work by providing the indicators. The engine behind this part of the database automatically generates Excel sheets per indicator that makes statistical and graphical analyses possible. To make competition in data entry possible a progress chart shows the completeness of the data entry for each individual country. After finalization of the project this benchmark looked like this:

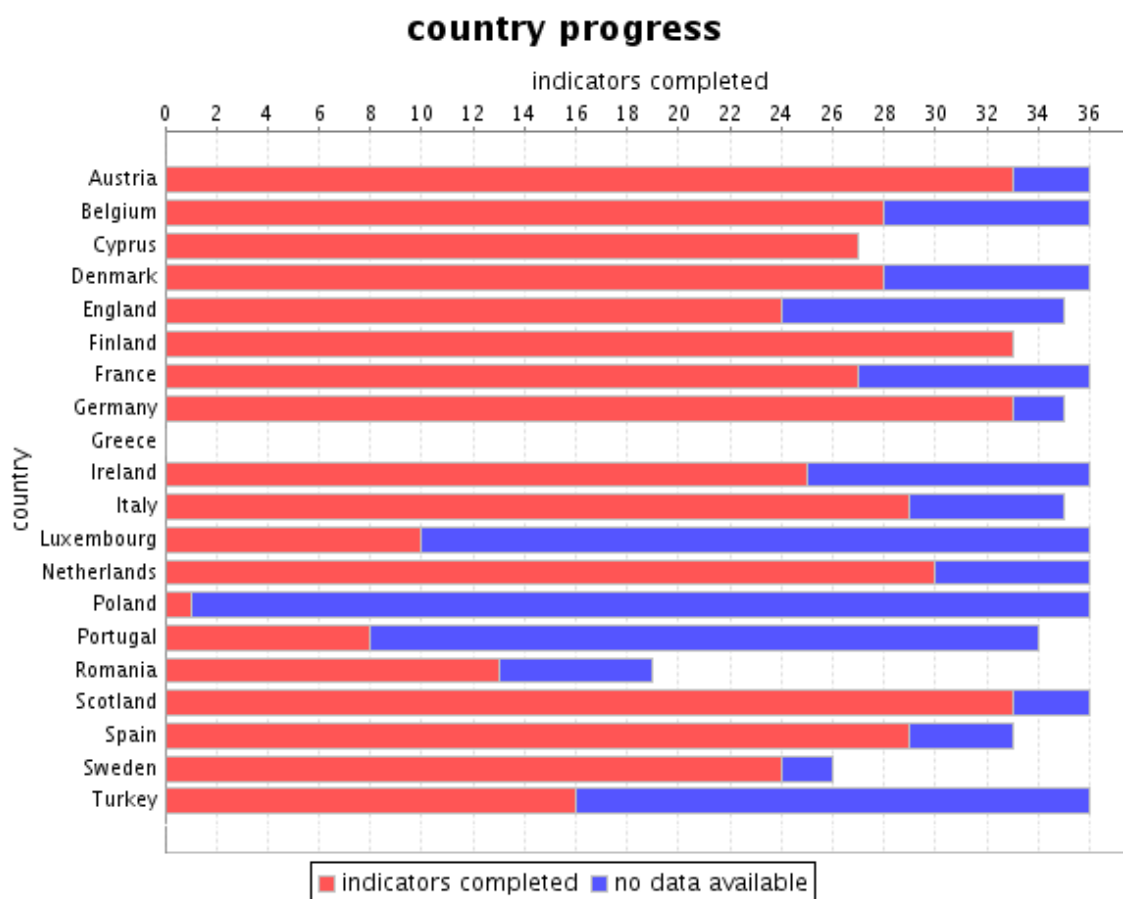


Figure 2: Benchmark of indicators per country at the final day before database lock at 19-11-2007.

See www.eucid.eu for the website of EUCID.

Annex 4 is the manual for the members part of the website.

Data analyses

The data were analysed by CBO in collaboration with our French partner Institute de Veille Sanitaire. Most work was done by J. Wittenberg (CBO) and I. Romon (Institute de Veille Sanitaire).

Analyses per indicator

The report provides graphs for all the indicators in crude format as well as crude format by age. The indicators for the general population are standardised by the age structure of the European population (IARC76 method), if appropriate.

For every data source several questions about the properties of the data source were asked (see code book). This information made it possible to group the data into several categories.

For the indicators concerning the diabetic population (risk factors and complications) we categorised the data sources as:

- Administrative database
- National survey
- Clinical database, primary care
- Clinical database, primary care + secondary care
- Clinical database, secondary care

For all risk factors the crude rates were recalculated to crude rates for age > 25 yr. This will make the data more comparable as many data sources used different age ranges, many times having no data below the age of 25 years available.

Analyses per country

For every country a spider web has been made of process and outcome indicators (if enough data available). The 6 'legs' of the spider web consist of the following process and outcome indicators:

	PROCESS	OUTCOME
1	HbA1c	HbA1c > 7,0%
2	BMI	BMI ≥ 30 kg/m ²
3	Blood pressure	Blood pressure > 140/90
4	Cholesterol	Cholesterol > 5 mmol/l
5	HDL-cholesterol	HDL-cholesterol < 1,0 men and 1,25 women
6	Albuminuria	Albuminuria abnormal
reserve	Triglycerides	Triglycerides < 2,3 mmol/l
reserve	Creatinin	End Stage Renal Failure
reserve	LDL-cholesterol	LDL-cholesterol > 2,6 mmol/l
reserve	Fundus tested	Retinopathy

Both the process and outcome indicators should be provided by the country. Both indicators should be derived from the same data source. If one or more of the 6 indicators was not available one of the 'reserve' indicators was chosen.

See table 5 for an overview of the performed analyses.

Table 5. Overview EUCID analyses**List of eucid indicators****GENERAL POPULATION**

Prevalence of diabetes
 Incidence age 0-14 years
 BMI general population
 Impaired fasting glucose in general population
 Mortality due to diabetes

BIOMEDICAL MEASURES / RISK FACTORS

HbA1c tested
 HbA1c
 Cholesterol tested
 Cholesterol > 5 mmol/l
 LDL-Cholesterol tested
 LDL-Cholesterol > 2.6 mmol/l
 HDL-Cholesterol tested
 HDL-Cholesterol <1.0 men and <1.25 women
 Triglycerides tested
 Triglycerides < 2.3 mmol/l
 Albuminuria tested
 Albuminuria abnormal
 Blood pressure tested
 Blood pressure >140/90
 BMI in diabetes population tested
 BMI in diabetes population => 25
 BMI in diabetes population => 30
 Smoking in diabetes population

COMPLICATIONS

Fundus tested
 Retinopathy
 Retinopathy and timely lasertreatment
 Incidence of blindness
 Creatinine tested
 ESRF
 Incidence of dialysis and transplantation
 Prevalence of dialysis and transpalntation
 Incidence of stroke
 Incidence of myocardial infarction
 Incidence of major amputation

PREPARED GRAPHS

Crude		Standardised		Age	
all ages	> 25 yrs	all ages	> 25 yr	all ages	> 25 yr
V		V		V	
V*		V*		V*	
	V**		V**		V
				V	
		V		V	

	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	
	V			V	

	V			V	
	V			V	
	V			V	
V				V	
	V			V	
V				V	
V				V	
V				V	
V				V	
V				V	
V				V	

* = all ages = 0-14 yr

** = 25-74 yr

Results

The data are reported as analysed and there will be no interpretation of the data, since this is the task of each individual country. When a certain interpretation is valid for all countries this will be given shortly.

Overview indicators provided

The vast amount of data that was collected for the EUCID project is not equally distributed over all the countries. Some countries had almost all the indicators available, while others only had a few available. Some have national databases, while others have more or less representative regional data. This shows that the availability of diabetes related information is not so standard as we would wish it to be. The data provided by IDF in their Diabetes Atlas are estimates for this reason. It is obvious that the number of indicators available varies considerably amongst the countries.

Data provided per country

In the next chapter the availability of the indicators per country and the properties will be shown.

The properties of the indicators provided per country vary considerably. Some countries have several national data available and a representative regional database for the clinical data. Other countries have only a few indicators available. In most countries the number of indicators available will grow in the near future. The clinical indicators will be available mostly from regional clinical databases.

DATA AVAILABILITY AND SOURCES

Overview data availability per country

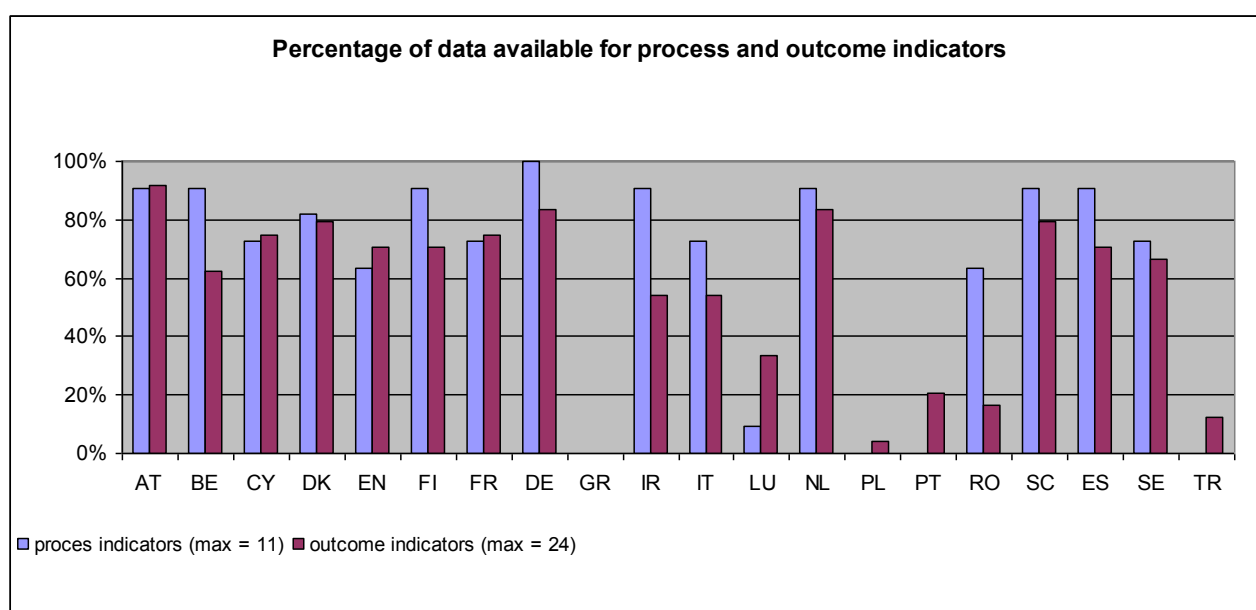
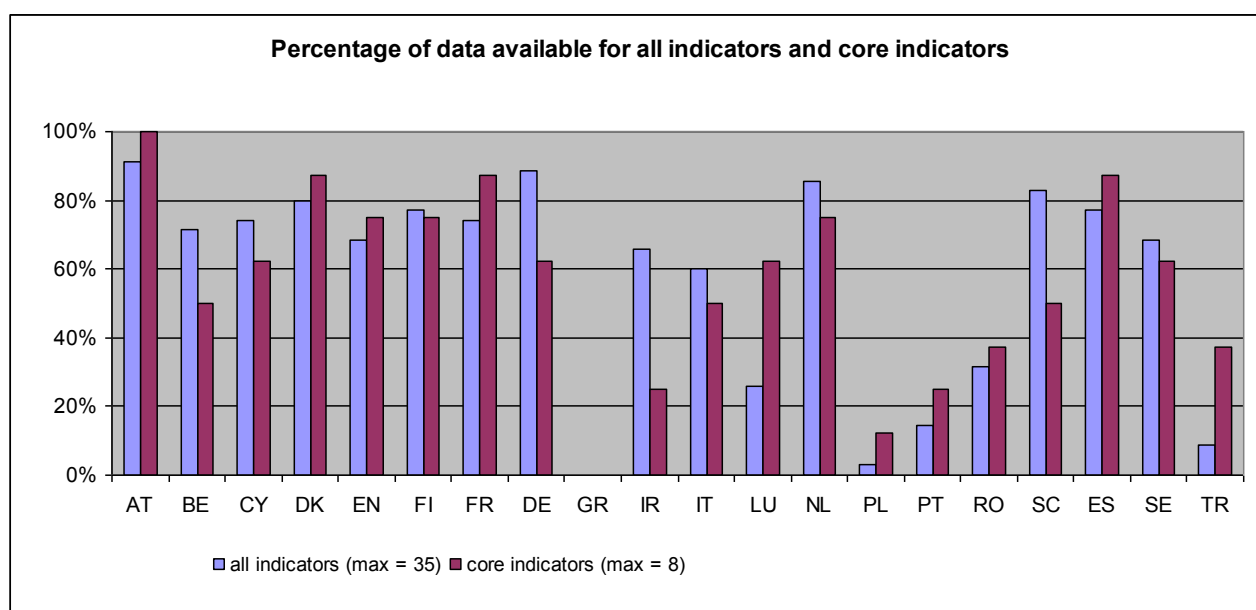
	AT	BE	CY	DK	EN	FI	FR	DE	GR	IR	IT	LUNL	PL	PT	RO	SC	SE	TR	Total		
Prevalence of diabetes	√	√	√	√	√	√	√	x		√	x	√	√		√	√	√	√	x	18	
Incidence age 0-14 years	√	x		√	√	√	√	√			x	√		√		√	√	√		14	
BMI general population > 30	√	√	√	√	√	x	√	√		x	√	√	√		√		√	√	√	16	
BMI general population > 25	√	√	√	√	√	x	√	√		x	√	√	√		x		√	√	√	16	
Impaired fasting glucose in general population			√			x		x								x		√		5	
HbA1c tested	√	√	√	√	√	√	√	√		√	√	√	√		√	√	√	√		16	
HbA1c	√	√	√	√	√	√	√	√		√	√		√			√	√	√	x	15	
Cholesterol tested	√	√	√	√	√	√	√	√		√	√		√		√	√	√	√		15	
Cholesterol > 5 mmol/l	√	√	√	√	√	√	√	√		√	√		√			√	√	√	x	15	
LDL-Cholesterol tested	√	√	√	√		√	√	√		√	√		√			√	√	√		13	
LDL-Cholesterol > 2.6 mmol/l	√	√	√	√		√	√	√		√	√		√			√	√	√	x	14	
HDL-Cholesterol tested	√	√	√	√		√	√	√		√	√		√		√	√	√	√		14	
HDL-Cholesterol <1.0 men and <1.25 women	√	√	√	√		√	√	√		√			√			√		√	x	12	
Triglycerides tested	√	√	√	√		√	√	√		√	√		√		√	√	√	√		14	
Triglycerides < 2.3 mmol/l	√	√	√	√		√	√	√		√	√		√			√		√	x	13	
Albuminuria tested	√	√		√	√	√	√	√		√	√		√			√	√			12	
Albuminuria abnormal	√	√			√	√	√	√		√	√		√			√	√		x	12	
Blood pressure tested	√	√	√	√	√	√		√		√	√		√		√	√	√	√		14	
Blood pressure >140/90	√	√	√	√	√	√	√	√		√	√		√			√	√	√	x	15	
BMI in diabetes population tested	√	√	√	√	√	√		√		√	√		√		√	√	√	√		14	
BMI in diabetes population => 25	√	√	√	√	√	√	√	√		√	√		√		x	√		√	x	15	
BMI in diabetes population => 30	√	√	√	√	√	√	√	√		√	√		√			√	x	√	x	15	
Smoking in diabetes population	√	√	√	√	√	√	√	√		√	√		√			√	√	√	x	15	
Fundus tested	√	√		√	√	√	√	√		√			√			√	√			11	
Retinopathy	√							√		√	x				√	√	√		x	8	
Retinopathy and timely laser treatment								√									x			2	
Incidence of blindness	√					√		√									x		√	5	
Creatinine tested	√	√	√		√	√	√	√		√			√		√	√	√	√		13	
ESRF		√	√		√	√	√	√			x		√			√		√	x	11	
Incidence of dialysis and transplantation	√		√	√		√	√				√		√			√	√			9	
Prevalence of dialysis and transplantation	√	√	√	√	√	√	√				√		√			√	√			11	
Incidence of stroke	√		√	√	√	x		√			x	√	√		√		√			12	
Incidence of myocardial infarction	√		√	√	√	x		√			x	√	√		√		√			12	
Incidence of major amputation	√			√	√	x		√			x	√	√		√		√			12	
Mortality due to diabetes	√	x		√	√	√	√	√		√		√	√		√			√	√	12	
Total available	32	27	26	28	24	33	26	33	0	25	29	9	30	1	5	13	30	30	24	16	441

An "X" indicates that data was entered in the website but could not be used for analysis for several reasons as described in the section of rules for use. A list of the country abbreviations is given in appendix 1.

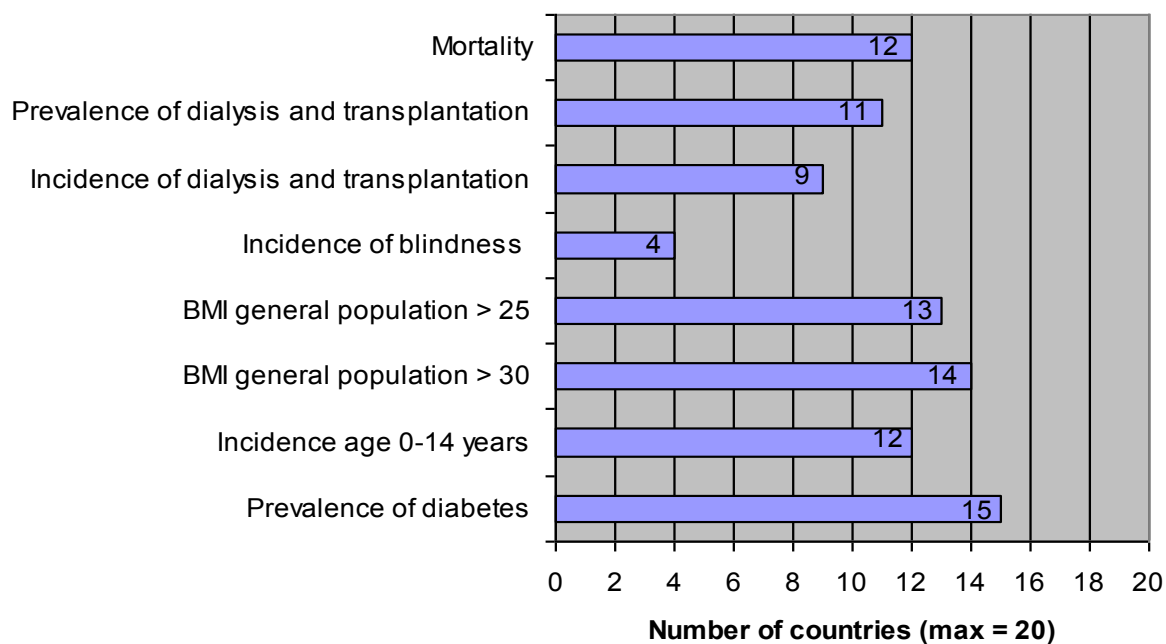
All countries were asked to enter data for in total 35 indicators. In the following graphs only used data is taken into account.

The core indicators are:

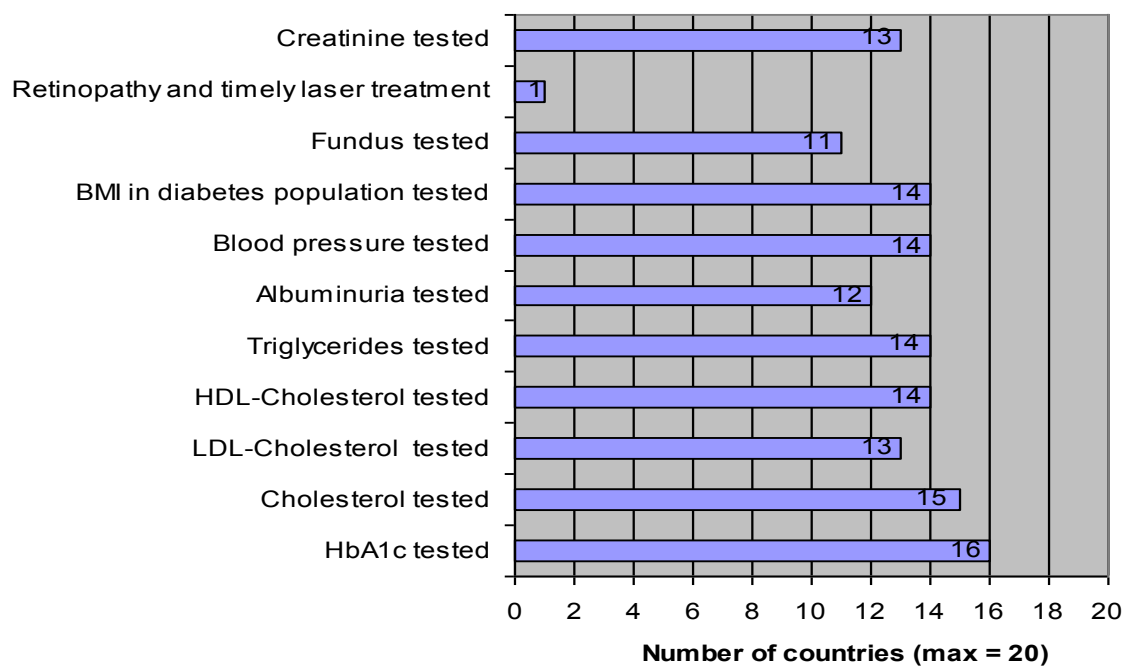
- Prevalence of diabetes
- Incidence age 0-14 years
- BMI general population > 30
- BMI general population > 25
- Incidence of blindness
- Incidence of dialysis and transplantation
- Prevalence of dialysis and transplantation
- Mortality



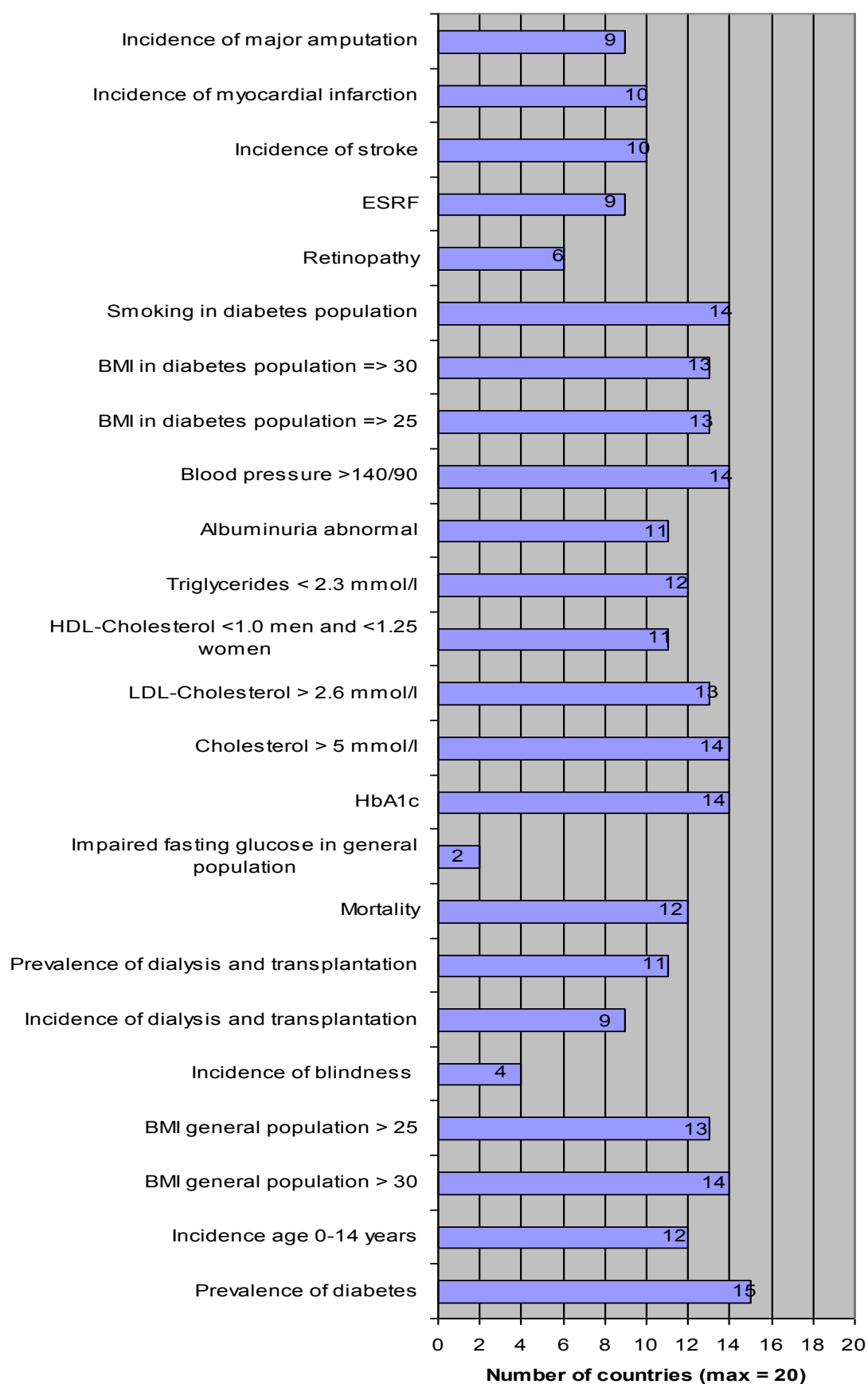
Number of countries able to provide core indicators



Number of countries able to provide process indicators



Number of countries able to provide outcome indicators



Data availability and data sources per country

In the next paragraphs the properties of the data sources used per indicator per country will be described. All indicators entered in the website will be explained here, both used and not used indicators.

Austria

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2005	ATHIS Gesundheitsbefragung 2006/07
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	Austrian Diab. Incid. Study
BMI general population > 30	Y	Y	NS	Ongoing	2005	ATHIS Gesundheitsbefragung 2006/07
BMI general population > 25	Y	Y	NS	Ongoing	2005	ATHIS Gesundheitsbefragung 2006/07
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
HbA1c	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Cholesterol > 5 mmol/l	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
LDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
HDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Triglycerides tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Triglycerides < 2.3 mmol/l	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Albuminuria tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Albuminuria abnormal	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Blood pressure tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Blood pressure >140/90	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
BMI in diabetes population tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
BMI in diabetes population => 25	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
BMI in diabetes population => 30	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Smoking in diabetes population	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Fundus tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Retinopathy	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	Y	N	RS	Ongoing	2006	Hospital based registry, Styria
Creatinine tested	Y	Y	RS	Ongoing	2005	FQSDO, Province of Styria
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	Y	Y	NS	Ongoing	2005	ATHIS Transplant register
Prevalence of dialysis and transplantation	y	y	NS	Ongoing	2005	ATHIS Transplant register
Incidence of stroke	y	y	RS	Ongoing	2005	FQSDO, Province of Styria
Incidence of myocardial infarction	y	y	RS	Ongoing	2005	FQSDO, Province of Styria
Incidence of major amputation	y	y	RS	Ongoing	2005	FQSDO, Province of Styria
Mortality due to diabetes, by age	y	y	NC	Ongoing	2005	Death Certificate Statistics
Mortality due to diabetes, adjusted	y	y	NC	Ongoing	2005	Death Certificate Statistics

Number and age bands

A total number of 32 indicators was collected and all but one of them had age bands.

Format, continuity and properties of the databases

The clinical data originated from a regional clinical database from the province of Styria. This database was a regional sample. This database is ongoing and will also provide indicators in the future.

Prevalence of diabetes and BMI came from a national Health Interview Survey (HIS). This interview is repeated at regular intervals. The next HIS is planned in 2011. The mortality data came from the national Death Certificate office.

The incidence of diabetes amongst children originated from a national database for children with diabetes and is ongoing.

The data for kidney disease in diabetes came from a national Transplant Register, that is ongoing.

Incidence of blindness came from an ongoing hospital based data base in the province of Styria.

Belgium

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2004	Belgian Health Interview Survey
Incidence age 0-14 years	Y	Y	RC	Ongoing	2003	Belgian Diabetes Registry - BDR
BMI general population > 30	Y	Y	NS	Ongoing	2004	Belgian Health Interview Survey
BMI general population > 25	Y	Y	NS	Ongoing	2004	Belgian Health Interview Survey
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
HbA1c	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Cholesterol tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Cholesterol > 5 mmol/l	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
LDL-Cholesterol tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
LDL-Cholesterol > 2.6 mmol/l	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
HDL-Cholesterol tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Triglycerides tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Triglycerides < 2.3 mmol/l	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Albuminuria tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Albuminuria abnormal	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Blood pressure tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Blood pressure >140/90	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
BMI in diabetes population tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
BMI in diabetes population => 25	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
BMI in diabetes population => 30	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Smoking in diabetes population	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Fundus tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
ESRF	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	Y	Y	NS	Ongoing	2006	Init. for Qual. Improv. and Epidem. for Diab.
Incidence of stroke	N	-	-	-	-	-

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	1997	National Mortality Data
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	1997	Standardized Procedure for Mortality Analysis

Number and age bands

A total of 27 indicators are available and all of them also had age bands.

Format, continuity and properties of the databases

The Initiative for Quality Improvement and Epidemiology in Diabetes collects clinical data from all the individuals in Belgium that are treated with insulin (with 2 or more insulin injections per day). It is a national database with a 10% sample for this population. The database is continuous, every 18 months a new data collection is held. The data of the Initiative for Quality Improvement and Epidemiology in Diabetes are from 2005 and 2006.

Belgium has a registry for children with diabetes. This database is continuous.

Data on the prevalence of diabetes and the BMI originated from a HIS that is performed regularly and is continuous.

The mortality of the total population originates from a national database and is continuous.

Cyprus

	Total	Age bands	Format	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Once	2004	DHyDO study
Incidence age 0-14 years	N	-	-	-	-	-
BMI general population > 30	Y	Y	NS	Once	2004	DHyDO study
BMI general population > 25	Y	Y	NS	Once	2004	DHyDO study
Impaired fasting glucose in general population	Y	Y	NS	Once	2004	DHyDO study
HbA1c tested	Y	Y	NS	Once	2004	DHyDO study
HbA1c	Y	Y	NS	Once	2004	DHyDO study
Cholesterol tested	Y	Y	NS	Once	2004	DHyDO study
Cholesterol > 5 mmol/l	Y	Y	NS	Once	2004	DHyDO study
LDL-Cholesterol tested	Y	Y	NS	Once	2004	DHyDO study
LDL-Cholesterol > 2.6 mmol/l	Y	Y	NS	Once	2004	DHyDO study
HDL-Cholesterol tested	Y	Y	NS	Once	2004	DHyDO study
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	NS	Once	2004	DHyDO study
Triglycerides tested	Y	Y	NS	Once	2004	DHyDO study
Triglycerides < 2.3 mmol/l	Y	Y	NS	Once	2004	DHyDO study
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	Y	Y	NS	Once	2004	DHyDO study
Blood pressure >140/90	Y	Y	NS	Once	2004	DHyDO study
BMI in diabetes population tested	Y	Y	NS	Once	2004	DHyDO study
BMI in diabetes population => 25	Y	y	NS	Once	2004	DHyDO study
BMI in diabetes population => 30	Y	Y	NS	Once	2004	DHyDO study
Smoking in diabetes population	Y	Y	NS	Once	2004	DHyDO study
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	NS	Once	2004	DHyDO study
ESRF	Y	Y	NC	Once	2005	Health and Hospital Statistics
Incidence of dialysis and transplantation	Y	Y	NS	Once	2004	DHyDO study
Prevalence of dialysis and transplantation	Y	Y	NS	Once	2004	DHyDO study
Incidence of stroke	Y	Y	NC	Once	2005	Health and Hospital Statistics
Incidence of myocardial infarction	Y	Y	NC	Once	2005	Health and Hospital Statistics
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

Data on 26 of the indicators were available and all of them also had age band information

Format, continuity and properties of the databases

All the information was extracted from the DHyDO study, an national sample for diabetes performed in 2004. This is not an ongoing effort.(Journal of Refugee Studies 2007; 20(1):86-107)

The clinics providing diabetes care in Cyprus are at the moment provided with an Electronical Medical Record for diabetes care. This systems are ready to communicate with the BIRO system to provide data in the future.

Denmark

	Total	Age bands	Format	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NC	Ongoing	2005	Danish Diabetes Register
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	Danish register of childhood diabetes
BMI general population	Y	Y	NS	Ongoing	2005	Danish Health Interview Survey 2005
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes and Danish register of childhood diabetes
Cholesterol tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Cholesterol > 5 mmol/l	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
LDL-Cholesterol tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
LDL-Cholesterol > 2.6 mmol/l	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
HDL-Cholesterol tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Triglycerides tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Triglycerides < 2.3 mmol/l	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Albuminuria tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Blood pressure >140/90	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
BMI in diabetes population tested	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
BMI in diabetes population => 25	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
BMI in diabetes population => 30	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Smoking in diabetes population	Y	Y	NS	Ongoing	2005	Danish register of adult diabetes
Fundus tested	Y	Y	NS	Ongoing	2005	Danish register of childhood and adult diabetes
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	Y	Y	NC	Ongoing	2005	Danish Nat. Reg. on Dialysis and Transplantation
Prevalence of dialysis and transplantation	Y	Y	NC	Ongoing	2005	Danish Nat. Reg. on Dialysis and Transplantation
Incidence of stroke	Y	Y	NS	Ongoing	2005	National Patient Register
Incidence of myocardial infarction	Y	Y	NS	Ongoing	2005	National Patient Register
Incidence of major amputation	Y	Y	NC	Ongoing	2005	Danish Amputation Register
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2005	The Danish Cause of death register
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2005	The Danish Cause of death register

Number and age bands

28 indicators are available, all inclusive age bands.

Format, continuity and properties of the databases

For prevalence and incidence there is a national register for diabetes available that is ongoing.

The BMI from the general population originated from a HIS that is ongoing.

The Danish register of childhood diabetes is a national clinical database. All children with diabetes in Denmark are registered in the database. (The information used to EUCID is children from 0-14 years)

The Danish register of adult diabetes is becoming a national clinical database. It was established in 2004 and was not yet implemented in all regions and hospitals in Denmark In 2005. The database is a part of the Danish National Indicator Project. The aim of the diabetes database is to measure and assess the health care processes and outcomes for the Danish diabetes population. In 2008 the database will start gathering data from the patients who are treated only by their general practitioners.

For adult diabetes the information comes from patients that are treated in the secondary section.

There is a special national database for dialysis/transplantation and for amputations. They are both ongoing.

England

	Total	Age bands	Format	Once/ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Incidence age 0-14 years	Y	Y	NS	Ongoing	2005	National Diabetes Audit
BMI general population > 30	Y	Y	NS	Ongoing	2005	Source Survey England
BMI general population > 25	Y	Y	NS	Ongoing	2005	Source Survey England
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
HbA1c	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Cholesterol tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Cholesterol > 5 mmol/l	Y	Y	NS	Ongoing	2005	National Diabetes Audit
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Albuminuria abnormal	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Blood pressure tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Blood pressure >140/90	Y	Y	NS	Ongoing	2005	National Diabetes Audit
BMI in diabetes population tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
BMI in diabetes population => 25	Y	Y	NS	Ongoing	2005	National Diabetes Audit
BMI in diabetes population => 30	Y	Y	ns	Ongoing	2005	National Diabetes Audit
Smoking in diabetes population	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Fundus tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	NS	Ongoing	2005	National Diabetes Audit
ESRF	Y	Y	NS	Ongoing	2005	National Diabetes Audit
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	Y	Y	NC	Ongoing	2005/6	Hospital Episode Statistics
Incidence of stroke	Y	Y	NC	Ongoing	2005/6	Hospital Episode Statistics
Incidence of myocardial infarction	Y	Y	NC	Ongoing	2005	Hospital Episode Statistics
Incidence of major amputation	Y	Y	NC	Ongoing	2005/6	Hospital Episode Statistics
Mortality due to diabetes, by age	Y	Y	NS	Ongoing	2005	Death Registrations
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

A total number of 24 indicators was provided, all of them in age bands.

Format, continuity and properties of the databases

The Health Survey for England (HSE) comprises a series of annual surveys beginning in 1991. The series is part of an overall programme of surveys commissioned the Department of Health and designed to provide regular information on various aspects of the nation's health. All surveys have covered the adult population aged 16 and over, living in private households in England. Children were included in every year since 1995. The national data are a sample of the total diabetes care. The system is ongoing.

The Hospital Episode Statistics is a database with discharge data of all the hospitals in England. This database is also ongoing.

Finland

	Total	Age bands	For-mat	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NC	Ongoing	2005	Files of Finnish Social Insurance Institution
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	National Drug Register
BMI general population > 30	Y	Y	NS	Ongoing	2005	Health Survey 2000
BMI general population > 25	Y	Y	NS	Ongoing	2005	Health Survey 2000
Impaired fasting glucose in general population	Y	Y	NS	Once	2005	Subsample of Health 2000 Survey
HbA1c tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
HbA1c	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Cholesterol tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Cholesterol > 5 mmol/l	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
LDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
HDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Triglycerides tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Triglycerides < 2.3 mmol/l	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Albuminuria tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Albuminuria abnormal	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Blood pressure tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Blood pressure >140/90	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
BMI in diabetes population tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
BMI in diabetes population => 25	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
BMI in diabetes population => 30	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Smoking in diabetes population	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Fundus tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
ESRF	Y	Y	RC	Ongoing	2005	Pirkanmaa district clinical database
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	Y	Y	NC	Ongoing	2005	Finnish Registry of Kidney Diseases
Incidence of stroke	Y	Y	NC	Ongoing	2005	National register on diabetes and complications
Incidence of myocardial infarction	Y	Y	NC	Ongoing	2005	National register on diabetes and complications
Incidence of major amputation	Y	Y	NC	Ongoing	2002	National register on diabetes and complications
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2005	Statistics Finland, Causes of Death
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2005	Statistics Finland, Causes of Death

Number and age bands

33 Indicators were available, all of them had age bands included.

Format, continuity and properties of the databases

All people with diabetes are entitled for free medical care in the Finnish system. There is a database for this reason. The prevalence of diabetes originated from this database, that is ongoing.

The incidence of diabetes for children was calculated from the national drug register, that is ongoing.

The data on kidney complications were extracted from the national database of the Finnish Registry of Kidney disease, that is ongoing.

MI and major amputations were extracted from the National Register of Diabetes and Complications, that is national and ongoing.

Data on impaired fasting glucose and BMI in the general population originated from a national Health Survey in 2000. This is held a regular intervals and ongoing. No more recent data were available.

France

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2005	EPAS
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	ALD (Affections de longue durée) database
BMI general population > 30	Y	Y	NS	Once	2006	Obepi 2006
BMI general population > 25	Y	Y	NS	Once	2006	Obepi 2006
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	NS	Once	2005	ECODIA2 study
HbA1c	Y	Y	NS	Once	2005	ECODIA2 study
Cholesterol tested	Y	Y	NS	Once	2005	ECODIA2 study
Cholesterol > 5 mmol/l	Y	Y	NS	Once	2005	ECODIA2 study
LDL-Cholesterol tested	Y	Y	NS	Once	2005	ECODIA2 study
LDL-Cholesterol > 2.6 mmol/l	Y	Y	NS	Once	2005	ECODIA2 study
HDL-Cholesterol tested	Y	Y	NS	Once	2005	ECODIA2 study
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	NS	Once	2005	ECODIA2 study
Triglycerides tested	Y	Y	NS	Once	2005	ECODIA2 study
Triglycerides < 2.3 mmol/l	Y	Y	NS	Once	2005	ECODIA2 study
Albuminuria tested	Y	Y	NS	Once	2005	ECODIA2 study
Albuminuria abnormal	Y	Y	NS	Once	2005	ECODIA2 study
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	Y	Y	NS	Once	2005	ECODIA2 study
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	Y	Y	NS	Once	2005	ECODIA2 study
BMI in diabetes population => 30	Y	Y	NS	Once	2005	ECODIA2 study
Smoking in diabetes population	Y	Y	NS	Once	2005	ECODIA2 study
Fundus tested	Y	Y	NS	Once	2005	ECODIA2 study
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	NS	Once	2005	ECODIA2 study
ESRF	Y	Y	NS	Once	2005	ECODIA2 study
Incidence of dialysis and transplantation	Y	Y	RC	Ongoing	2005	"REIN" registry for end stage renal disease
Prevalence of dialysis and transplantation	Y	Y	RC	Ongoing	2005	"REIN" registry for end stage renal disease
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2004	French Mortality Database

Number and age bands

A total number of 26 indicators was available for France, all of them included age bands.

Format, continuity and properties of the databases

Prevalence of treated diabetes was extracted from an administrative database, collected on a regular basis.

The incidence of diabetes amongst children was extracted from administrative databases based on a system that provided free medical care for chronic diseases. These databases are ongoing.

BMI was extracted from a national HIS.

Most of the clinical indicators were reported from the ECODIA study that was performed for the second time in 2005, This study was a cross-sectional study that may not be repeated.

The kidney data came from regional registries of kidney disease that is ongoing.

Mortality data for the general population were extracted from the national death registry that is ongoing. Most of the indicators will be available from this database at the end of 2008.

Germany

	Total	Age bands	For-mat	Once/ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2005	Bundes-Gesundheitssurvey 1998
Incidence age 0-14 years	Y	Y	RS	Ongoing	2005	DPV
BMI general population > 30	Y	Y	NS	Ongoing	2005	Microcensus 2005
BMI general population > 25	Y	Y	NS	Ongoing	2005	Microcensus 2005
Impaired fasting glucose in general population	Y	Y	RS	Once	2005	Kora Study
HbA1c tested	Y	Y	RS	Ongoing	2005	FQSD Germany
HbA1c	Y	Y	RS	Ongoing	2005	FQSD Germany
Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSD Germany
Cholesterol > 5 mmol/l	Y	Y	RS	Ongoing	2005	FQSD Germany
LDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSD Germany
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RS	Ongoing	2005	FQSD Germany
HDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	FQSD Germany
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RS	Ongoing	2005	FQSD Germany
Triglycerides tested	Y	Y	RS	Ongoing	2005	FQSD Germany
Triglycerides < 2.3 mmol/l	Y	Y	RS	Ongoing	2005	FQSD Germany
Albuminuria tested	Y	Y	RS	Ongoing	2005	FQSD Germany
Albuminuria abnormal	Y	Y	RS	Ongoing	2005	FQSD Germany
Blood pressure tested	Y	Y	RS	Ongoing	2005	FQSD Germany
Blood pressure >140/90	Y	Y	RS	Ongoing	2005	FQSD Germany
BMI in diabetes population tested	Y	Y	RS	Ongoing	2005	FQSD Germany
BMI in diabetes population => 25	Y	Y	RS	Ongoing	2005	FQSD Germany
BMI in diabetes population => 30	Y	Y	RS	Ongoing	2005	FQSD Germany
Smoking in diabetes population	Y	Y	RS	Ongoing	2005	FQSD Germany
Fundus tested	Y	Y	RS	Ongoing	2005	FQSD Germany
Retinopathy	Y	Y	RS	Ongoing	2005	FQSD Germany
Retinopathy and timely laser treatment	Y	Y	RS	Ongoing	2005	FQSD Germany
Incidence of blindness	Y	N	RS	Once	1997	Study
Creatinine tested	Y	Y	RS	Ongoing	2005	FQSD Germany
ESRF	Y	Y	RS	Ongoing	2005	FQSD Germany
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	Y	Y	RS	Ongoing	2005	FQSD Germany
Incidence of myocardial infarction	Y	Y	RS	Ongoing	2005	FQSD Germany
Incidence of major amputation	Y	Y	RS	Ongoing	2005	FQSD Germany
Mortality due to diabetes, by age	Y	Y	NS	Ongoing	2005	Microsensus 2005
Mortality due to diabetes, adjusted	Y	Y	NS	Ongoing	2005	Microsensus 2005

Number and age bands

33 indicators were provided, 33 had age bands.

Format, continuity and properties of the databases

All clinical data originated from the FQSD database of diabetes treatment sites. This system is designed for quality assessment and is ongoing. The data come directly from clinical treatment sites. The database contains several regions and is ongoing.

BMI and mortality in the general population originated from the German microsurvey that is run on an annual basis. This is a HES.

The German Paediatric organisation maintains a database for the diagnosis of diabetes amongst children in several regions. The database is ongoing.

The "Bundes-Gesundheitssurvey 1998" is a HES that is performed regularly on a national basis.

The incidence of blindness originated from a study by Trautner et al. (Trautner C, Haastert B, Giani G, Berger M. Incidence of blindness in southern Germany between 1990 and 1998 (Diabetologia 2001; 44(2): 147-50). There are no more recent data available.

Greece

	Total	Age bands	For-mat	Once/ongoing	Year	Properties database
Prevalence of diabetes	N	-	-	-	-	-
Incidence age 0-14 years	N	-	-	-	-	-
BMI general population > 30	N	-	-	-	-	-
BMI general population > 25	N	-	-	-	-	-
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	N	-	-	-	-	-
HbA1c	N	-	-	-	-	-
Cholesterol tested	N	-	-	-	-	-
Cholesterol > 5 mmol/l	N	-	-	-	-	-
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	N	-	-	-	-	-
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	N	-	-	-	-	-
BMI in diabetes population => 30	N	-	-	-	-	-
Smoking in diabetes population	N	-	-	-	-	-
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

The partner of Greece delivered no data that could be used for analysis. The collaboration with the national diabetes organisation first promised data but did not deliver.

Ireland

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	N	NS	Ongoing	2005	Making Diabetes Count
Incidence age 0-14 years	N	-	-	-	-	-
BMI general population > 30	Y	N	NS	Ongoing	2002	Survey of Lifestyle, Attitude and Nutrition - SLÁN 2002
BMI general population > 25	Y	N	NS	Ongoing	2002	Survey of Lifestyle, Attitude and Nutrition - SLÁN 2002
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
HbA1c	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Cholesterol tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Cholesterol > 5 mmol/l	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
LDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
HDL-Cholesterol tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Triglycerides tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Triglycerides < 2.3 mmol/l	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Albuminuria tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Albuminuria abnormal	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Blood pressure tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Blood pressure >140/90	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
BMI in diabetes population tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
BMI in diabetes population => 25	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
BMI in diabetes population => 30	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Smoking in diabetes population	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Fundus tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Retinopathy	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	RS	Ongoing	2005	Diamond Diabetes Database
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2005	Deaths Register
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2005	Deaths Register

Number and age bands

25 Indicators were collected, all of them had age bands.

Format, continuity and properties of the databases

The prevalence of diabetes was estimated through a national study that is ongoing. This was the first estimation of the incidence of diabetes by the following initiative: "Making Diabetes Count - A systematic approach to estimating population prevalence on the island of Ireland in 2005. First report of The Irish Diabetes Prevalence Working Group, Ireland and Northern Ireland's Population Health Observatory (INIsPHO), Institute of Public Health in Ireland". The data on obesity were collected from another national initiative that is ongoing and a HES. "Survey on Lifestyle, Attitudes and Nutrition" (SLAN 2002) The mortality data originated from the national Deaths Register. The clinical data originated from the Diamond Diabetes Register, a clinical database that is growing and ongoing.

Data Collection 2008

Collection for 2008 will be carried out in a similar way to the 2005 data. The Irish Diabetes Prevalence Work Group have recently published a new paper, "Making Diabetes Count - What does the future hold", this will help with some of the information. Another "Survey on Lifestyle, Attitudes and Nutrition" in Ireland was commissioned in 2006 (SLAN 2006), work is currently underway, we would hope to have this information available. Mortality data will be sourced from the National Deaths Register and updated clinical data will again be drawn from our Diamond Diabetes Database. Indicators that were not available for 2005 are also unlikely to be available for 2008.

Italy

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	RC	Ongoing	2005	Piemonte Torino region
Incidence age 0-14 years	Y	Y	NS	Ongoing	2005	RIDI
BMI general population > 30	Y	N	NS	Ongoing	2005	HIS
BMI general population > 25	Y	N	NS	Ongoing	2005	HIS
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
HbA1c	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Cholesterol tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Cholesterol > 5 mmol/l	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
LDL-Cholesterol tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
LDL-Cholesterol > 2.6 mmol/l	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
HDL-Cholesterol tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Triglycerides < 2.3 mmol/l	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Albuminuria tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Albuminuria abnormal	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Blood pressure tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Blood pressure >140/90	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
BMI in diabetes population tested	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
BMI in diabetes population => 25	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
BMI in diabetes population => 30	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Smoking in diabetes population	Y	N	NS	Ongoing	2005	AMD 2006 Annals. Quality indicators in Diabetes care in Italy
Fundus tested	N	-	-	-	-	-
Retinopathy	Y	N	RS	Once	2005	Series from Centro Retinopatia Diabetica University of Turin
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	Y	N	RS	Once	2001	Casale Monferrato Study, Diabetes Care 26:2150 2003 and 26:2353 2003
Incidence of dialysis and transplantation	Y	N	NC	Ongoing	2004	National register of dialysis and transplantation
Prevalence of dialysis and transplantation	Y	N	NC	Ongoing	2003	National register of dialysis and transplantation

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Incidence of stroke	Y	Y	NS	Once	2005	DAI study
Incidence of myocardial infarction	Y	Y	NS	Once	2005	DAI study
Incidence of major amputation	Y	Y	RC	Ongoing	2000	Emilia Romagna Hospital discharge database
Mortality due to diabetes, by age, by age	Y	Y	NC	Ongoing	2005	National Death Register
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2005	National Death Register

Number and age bands

29 indicators were reported, 7 had age bands.

Format, continuity and properties of the databases

The indicator for prevalence of diabetes originated from a regional database. The study is ongoing.

The indicator for prevalence amongst children originated from an national database that is ongoing.

The AMD 2006 annals database is a study in a national sample that is ongoing.

The same holds for the retinopathy and incidence of MI and amputations.

The nephropathy database is stable and ongoing on a national basis.

The amputation data originate from a regional database that is ongoing.

Luxembourg

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NC	Ongoing	2004	Social Insurance database
Incidence age 0-14 years	Y	Y	NC	Ongoing	2004	Social Insurance database
BMI general population > 30	Y	Y	NS	Ongoing	2004	national population institute CEPS
BMI general population > 25	Y	Y	NS	Ongoing	2004	national population institute CEPS
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	Y	NS	Ongoing	2004	Social Insurance database
HbA1c	N	-	-	-	-	-
Cholesterol tested	N	-	-	-	-	-
Cholesterol > 5 mmol/l	N	-	-	-	-	-
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	N	-	-	-	-	-
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	N	-	-	-	-	-
BMI in diabetes population => 30	N	-	-	-	-	-
Smoking in diabetes population	N	-	-	-	-	-
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	Y	Y	NC	Ongoing	2004	Hospitalisation database at the insurance
Incidence of myocardial infarction	Y	Y	NC	Ongoing	2004	Hospitalisation database at the insurance
Incidence of major amputation	Y	Y	NC	Ongoing	2004	Hospitalisation database at the insurance
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2004	Registre de Deces
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2004	Registre de Deces

Number and age bands

9 Indicators were provided, all of them had age bands

Format, continuity and properties of the databases

The social insurance database provided the indicators for prevalence of diabetes, incidence in children and number of HbA1c tested. This database is ongoing. Clinical data are not available. The incidence of Stroke, MI and Amputations originated from the national Hospitalisation database and the Mortality in the general population from the "Registre de Deces". Both databases are ongoing.

In 2008 there will be 9 more indicators available for the database.

Netherlands

Prevalence of diabetes

Incidence age 0-14 years

BMI general population > 30

BMI general population > 25

Impaired fasting glucose in general population

HbA1c tested

HbA1c

Cholesterol tested

Cholesterol > 5 mmol/l

LDL-Cholesterol tested

LDL-Cholesterol > 2.6 mmol/l

HDL-Cholesterol tested

HDL-Cholesterol <1.0 men and <1.25 women

Triglycerides tested

Triglycerides < 2.3 mmol/l

Albuminuria tested

Albuminuria abnormal

Blood pressure tested

Blood pressure >140/90

BMI in diabetes population tested

BMI in diabetes population => 25

BMI in diabetes population => 30

Smoking in diabetes population

Fundus tested

Retinopathy

Retinopathy and timely laser treatment

Incidence of blindness

Creatinine tested

ESRF

Incidence of dialysis and transplantation

Prevalence of dialysis and transplantation

Incidence of stroke

Incidence of myocardial infarction

Incidence of major amputation

Mortality due to diabetes, by age

Mortality due to diabetes, adjusted

Total	Age bands	Format	Once/Ongoing	Year	Properties database
Y	Y	NS	Ongoing	2005	POLS
N	-	-	-	-	-
Y	Y	NS	Ongoing	2005	POLS
Y	Y	NS	Ongoing	2005	POLS
N	-	-	-	-	-
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
y	y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
N	-	-	-	-	-
N	-	-	-	-	-
N	-	-	-	-	-
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	RS	Ongoing	2005	Hoorn Study
Y	Y	NC	Ongoing	2005	Renine database
Y	Y	NC	Ongoing	2005	Renine database
Y	Y	NC	Ongoing	2005	National discharge registry
Y	Y	NC	Ongoing	2005	National discharge registry
Y	Y	NC	Ongoing	2005	National discharge registry
Y	Y	NC	Ongoing	2005	Centraal Bureau voor de Statistiek
Y	Y	NC	Ongoing	2005	Centraal Bureau voor de Statistiek

Number and age bands

30 Indicators were provided, all had age bands.

Format, continuity and properties of the databases

POLS is a HES that is performed annually in the Netherlands. This database provided the indicators for prevalence of diabetes and BMI in the general population. The POLS database is ongoing.

The Hoorn study is an ongoing clinical database in the region of Hoorn, West Friesland, north of Amsterdam. This database provided all the clinical data.

The national register for dialysis and kidney transplantation provided the data for the renal indicators. The database is ongoing.

The MI, Stroke, Amputation and Mortality due to Diabetes indicators were provided by the National Hospital Discharge database. This database is ongoing.

The mortality data were provided by the database of the national institute for statistics. This database is ongoing.

Poland

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	N	-	-	-	-	-
Incidence age 0-14 years	Y	-	RC	Ongoing	2005	Upper Silesia region (Katowice, Poland)
BMI general population > 30	N	-	-	-	-	-
BMI general population > 25	N	-	-	-	-	-
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	N	-	-	-	-	-
HbA1c	N	-	-	-	-	-
Cholesterol tested	N	-	-	-	-	-
Cholesterol > 5 mmol/l	N	-	-	-	-	-
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	N	-	-	-	-	-
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	N	-	-	-	-	-
BMI in diabetes population => 30	N	-	-	-	-	-
Smoking in diabetes population	N	-	-	-	-	-
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

1 Indicator was provided, with age bands.

Format, continuity and properties of the databases

Poland was the only country that was not included in the consortium. The Upper Silesia region provided data on the indicator of Incidence of diabetes in children. The database is ongoing.

A new contact will provide data in the future on several indicators.

Portugal

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	NS	Ongoing	2005	National HES
Incidence age 0-14 years	N	-	-	-	-	-
BMI general population > 30	N	-	-	-	-	-
BMI general population > 25	N	-	-	-	-	-
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	N	-	-	-	-	-
HbA1c	N	-	-	-	-	-
Cholesterol tested	N	-	-	-	-	-
Cholesterol > 5 mmol/l	N	-	-	-	-	-
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	N	-	-	-	-	-
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	N	-	-	-	-	-
BMI in diabetes population => 30	N	-	-	-	-	-
Smoking in diabetes population	N	-	-	-	-	-
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	N	-	-	-	-	-
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	Y	Y	NC	ongoing	2005	Public hospitals GRDs database
Incidence of myocardial infarction	Y	Y	NC	ongoing	2005	Public hospitals GRDs database
Incidence of major amputation	y	y	NC	ongoing	2005	Public hospitals GRDs database
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2005	Causes of Death
Mortality due to diabetes, adjusted	Y	Y	NC	ongoing	2005	Causes of Death, INE

Number and age bands

5 Indicators were provided, all of them had age bands.

Format, continuity and properties of the databases

The prevalence of diabetes was estimated by a national HES and is ongoing.

The MI, Stroke and Amputation data originated from the Hospital Discharge Database. This database is ongoing.

During the project the contact person for the project was withdrawn by the Ministry of Health. Although there were many efforts to have an new person assigned, we did not succeed and the entry of more indicators stopped after withdrawal of the first contact person.

Romania

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	N	NC	Ongoing	2005	Bucharest database
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	Bucharest database
BMI general population > 30	Y	N	RS	Ongoing	2005	Bucharest database
BMI general population > 25	Y	N	NS	Ongoing	2006	Bucharest database
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	N	RS	Ongoing	2005	Bucharest database
HbA1c	N	-	-	-	-	-
Cholesterol tested	Y	N	RS	Ongoing	2005	Bucharest database
Cholesterol > 5 mmol/l	N	-	-	-	-	-
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	N	-	-	-	-	-
HDL-Cholesterol tested	Y	N	RS	Ongoing	2005	Bucharest database
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	Y	N	RS	Ongoing	2005	Bucharest database
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	Y	N	RS	Ongoing	2004	Bucharest database
Blood pressure >140/90	N	-	-	-	-	-
BMI in diabetes population tested	Y	N	RS	Ongoing	2005	Bucharest database
BMI in diabetes population => 25	Y	N	RS	Ongoing	2005	Bucharest database
BMI in diabetes population => 30	N	-	-	-	-	-
Smoking in diabetes population	N	-	-	-	-	-
Fundus tested	N	-	-	-	-	-
Retinopathy	Y	N	RS	Ongoing	2005	Bucharest Diabetes Eye Centre
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	N	RS	Ongoing	2005	Bucharest database
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

13 Indicators were provided, one with age bands.

Format, continuity and properties of the databases

The data for the Bucharest database were collected from an electronical patient record working for clinical routine diabetes care in Bucharest. In Romania diabetes care is provided by diabetologists and not yet by general practitioners. The database is ongoing and growing. Age bands were not yet possible but will be possible for 2008.

Scotland

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Incidence age 0-14 years	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
BMI general population > 30	N	-	-	-	-	-
BMI general population > 25	N	-	-	-	-	-
Impaired fasting glucose in general population	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
HbA1c tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
HbA1c	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Cholesterol tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Cholesterol > 5 mmol/l	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
LDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
HDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Triglycerides tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Triglycerides < 2.3 mmol/l	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Albuminuria tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Albuminuria abnormal	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Blood pressure tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Blood pressure >140/90	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
BMI in diabetes population tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
BMI in diabetes population => 25	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
BMI in diabetes population => 30	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Smoking in diabetes population	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Fundus tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Retinopathy	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
ESRF	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Incidence of dialysis and transplantation	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties database
Prevalence of dialysis and transplantation	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Incidence of stroke	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Incidence of myocardial infarction	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Incidence of major amputation	Y	Y	RC	Ongoing	2005	Diabetes Audit and Research in Tayside Study
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

30 Indicators were provided, all had age bands.

Format, continuity and properties of the databases

The Diabetes Audit and Research Tayside Study (DARTS) began in 1996 and by 2000 had created a complete electronic patient record and regional database for the Tayside region in Scotland. In 2002 the system was expanded and rolled out as the Scottish Care Information – Diabetes Collaboration (SCI-DC) programme, in order to make the system available across all of Scotland's 15 health boards. In 2006, SCI-DC completed its implementation, and now provides regional and national outcomes across the country. The system is used daily by healthcare professionals across all Diabetes specialties and is a key component of the national Diabetes Retinopathy Screening Programme.

This is the most complete database in the EUCID analysis. The Tayside database is one of the main partners and contributors of Better Indicators through Regional Outcomes (BIRO).

Spain

	Total	Age bands	Format	Once/Ongoing	Year	Properties Database
Prevalence of diabetes	Y	N	NC	Ongoing	2005	Encuesta Nacional de Salud
Incidence age 0-14 years	Y	N	NC	Ongoing	2005	Ministerio de Sanidad y Consumo
BMI general population > 30	Y	Y	NC	Ongoing	2005	Ministerio de Sanidad y Consumo
BMI general population > 25	Y	N	NC	Ongoing	2005	Ministerio de Sanidad y Consumo
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	Y	N	RC	Ongoing	2005	Diabetes en Malaga
HbA1c	Y	N	RS	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Cholesterol tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Cholesterol > 5 mmol/l	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
LDL-Cholesterol tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
LDL-Cholesterol > 2.6 mmol/l	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
HDL-Cholesterol tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
HDL-Cholesterol <1.0 men and <1.25 women	N	-	-	-	-	-
Triglycerides tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Triglycerides < 2.3 mmol/l	N	-	-	-	-	-
Albuminuria tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Albuminuria abnormal	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Blood pressure tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Blood pressure >140/90	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
BMI in diabetes population tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
BMI in diabetes population => 25	N	-	-	-	-	-
BMI in diabetes population => 30	Y	N	RS	Once	2005	Influencia de la telemedicina en el seguimiento del paiciente diabetico
Smoking in diabetes population	Y	N	RS	Ongoing	2004	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Fundus tested	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Retinopathy	Y	N	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Retinopathy and timely laser treatment	Y	N	RS	Ongoing	2005	Unidad de Calidad. Delegación provincial de Salud. Málaga
Incidence of blindness	Y	N	RS	Ongoing	2005	Unidad de Calidad
Creatinine tested	Y	N	RS	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
ESRF	N	-	-	-	-	-
Incidence of dialysis and transplantation	Y	N	NC	Ongoing	2005	Registro Español de Dialisis Y Transplantate
Prevalence of dialysis and transplantation	Y	N	NC	Ongoing	2004	Registro Español de Dialisis Y Transplantate
Incidence of stroke	Y	Y	RC	Ongoing	2005	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Incidence of myocardial infarction	Y	Y	RC	Ongoing	2004	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Incidence of major amputation	Y	Y	RC	Ongoing	2004	Plan Integral de Diabetes. Consejería de Salud. Junta de Andalucía
Mortality due to diabetes, by age	Y	N	NC	Ongoing	2005	Registro de mortalidad del IEE
Mortality due to diabetes, adjusted	Y	N	NC	Ongoing	2005	Registro de mortalidad del IEE

Number and age bands

30 indicators were provided, 4 with age bands.

Format, continuity and properties of the databases

The “Encuesta Nacional de Salud”, a HES, that is done on a regular base provided the prevalence data for diabetes.

The Ministry of Health provided the data of incidence of diabetes in children and the BMI data in general population. This database is ongoing.

The clinical data came from a clinical database in Andalusia, that is ongoing. Andalusia is one of the 17 Regional Health Departments in Spain. All regions report to the Ministry of Health. Whenever national data were available they were used.

The dialysis and transplantation came from a national database that is ongoing.

Sweden

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Prevalence of diabetes	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Incidence age 0-14 years	Y	Y	NC	Ongoing	2005	National Database
BMI general population > 30	Y	Y	RS	Ongoing	2005	Skaraborg Primary Care Research Database
BMI general population > 25	Y	Y	RS	Ongoing	2005	Skaraborg Primary Care Research Database
Impaired fasting glucose in general population	Y	Y	RS	Ongoing	2005	Skaraborg Primary Care Research Database
HbA1c tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
HbA1c	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Cholesterol tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Cholesterol > 5 mmol/l	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
LDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
LDL-Cholesterol > 2.6 mmol/l	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
HDL-Cholesterol tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
HDL-Cholesterol <1.0 men and <1.25 women	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Triglycerides tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Triglycerides < 2.3 mmol/l	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	N	-	-	-	-	-
Blood pressure tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Blood pressure >140/90	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
BMI in diabetes population tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
BMI in diabetes population => 25	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
BMI in diabetes population => 30	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Smoking in diabetes population	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Fundus tested	N	-	-	-	-	-
Retinopathy	N	-	-	-	-	-
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	N	-	-	-	-	-
Creatinine tested	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
ESRF	Y	Y	RC	Ongoing	2005	Skaraborg Primary Care Research Database
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-

	Total	Age bands	Format	Once/Ongoing	Year	Properties database
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	Y	Y	NC	Ongoing	2005	National Death Register
Mortality due to diabetes, adjusted	Y	Y	NC	Ongoing	2005	National Death Register

Number and age bands

24 Indicators were provided, all with age bands

Format, continuity and properties of the databases

The BMI data for the general population originated from the Skaraborg Project, a regional population sample based on a random sample of the age group 30-74.

The data for childhood incidence of diabetes originated from the Swedish Childhood Diabetes Registry, coordinated by professor Gisela Dahlquist, University of Umea.

All information came from a complete regional database from Skaraborg. This database is ongoing.

For the data in 2008 the database will be combined with the Stockholm database so that rural and city environments will be represented.

The mortality data originated from the National Death Register, that is ongoing.

Turkey

	Total	Age bands	For- mat	Once/ Ongoing	Year	Properties Database
Prevalence of diabetes	Y	N	NS	Ongoing	1997-1998	Turkish Diabetes Epidemiology Study
Incidence age 0-14 years	N	-	-	-	-	-
BMI general population > 30	Y	N	NS	Ongoing	1997-1998	Turkish Diabetes Epidemiology Study
BMI general population > 25	Y	N	NS	Ongoing	1997-1998	Turkish Diabetes Epidemiology Study
Impaired fasting glucose in general population	N	-	-	-	-	-
HbA1c tested	N	-	-	-	-	-
HbA1c	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Cholesterol tested	N	-	-	-	-	-
Cholesterol > 5 mmol/l	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
LDL-Cholesterol tested	N	-	-	-	-	-
LDL-Cholesterol > 2.6 mmol/l	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
HDL-Cholesterol tested	N	-	-	-	-	-
HDL-Cholesterol <1.0 men and <1.25 women	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Triglycerides tested	N	-	-	-	-	-
Triglycerides < 2.3 mmol/l	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Albuminuria tested	N	-	-	-	-	-
Albuminuria abnormal	Y	N	NS	Once	2003	Demand study
Blood pressure tested	N	-	-	-	-	-
Blood pressure >140/90	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
BMI in diabetes population tested	N	-	-	-	-	-
BMI in diabetes population => 25	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
BMI in diabetes population => 30	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Smoking in diabetes population	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Fundus tested	N	-	-	-	-	-
Retinopathy	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Retinopathy and timely laser treatment	N	-	-	-	-	-
Incidence of blindness	Y	N	RS	Once	2005	Diabetes Centre Database (Marmara Region)

	Total	Age bands	Format	Once/Ongoing	Year	Properties Database
Creatinine tested	N	-	-	-	-	-
ESRF	Y	N	NS	Once	2002	Turkish Diabetes Chronic Complications Study
Incidence of dialysis and transplantation	N	-	-	-	-	-
Prevalence of dialysis and transplantation	N	-	-	-	-	-
Incidence of stroke	N	-	-	-	-	-
Incidence of myocardial infarction	N	-	-	-	-	-
Incidence of major amputation	N	-	-	-	-	-
Mortality due to diabetes, by age	N	-	-	-	-	-
Mortality due to diabetes, adjusted	N	-	-	-	-	-

Number and age bands

16 Indicators were provided, none with age bands

Format, continuity and properties of the databases

The data from Turkey originated from 4 studies, which were performed between the years 1997 and 2002. Therefore they could not be incorporated in our formal analysis that included only data from 2004 – 2006. The studies were national samples and not ongoing.

The only data used were on blindness due to diabetes, a regional sample database from 2005.

For the year 2008, data will be collected for the following EUCID indicators: Risk factors-biomedical, Complications (except Retinopathy and timely laser treatment, Incidence of dialysis and transplantation). The age bands will also be provided.

ANALYSIS PER INDICATOR

Indicators part 1 – General population

- Prevalence of diabetes
- Incidence age 0-14 years
- BMI general population
- Impaired fasting glucose in general population
- Mortality due to diabetes

Prevalence of diabetes

Indicator: prevalence of diabetes mellitus / 1000 population (core indicator)

Definition:

The prevalence of diabetes is defined as the ratio of the number of cases of diabetes present in the population per 1000 individuals in that population. Diabetes defined according to WHO/ADA criteria (1998-9).

Data availability

Countries not able to provide data

- Greece, Poland

Countries able to provide total but no age band data

- Spain, Romania, Ireland, Portugal

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 1997/1998
 - Prevalence of diabetes mellitus / 1000 population: 72
- Italy: data from 2003
 - Prevalence of diabetes mellitus / 1000 population: 48
- Germany: data from 1998
 - Prevalence of diabetes mellitus / 1000 population: 69.1

Discussion

Three sources of prevalence data are used:

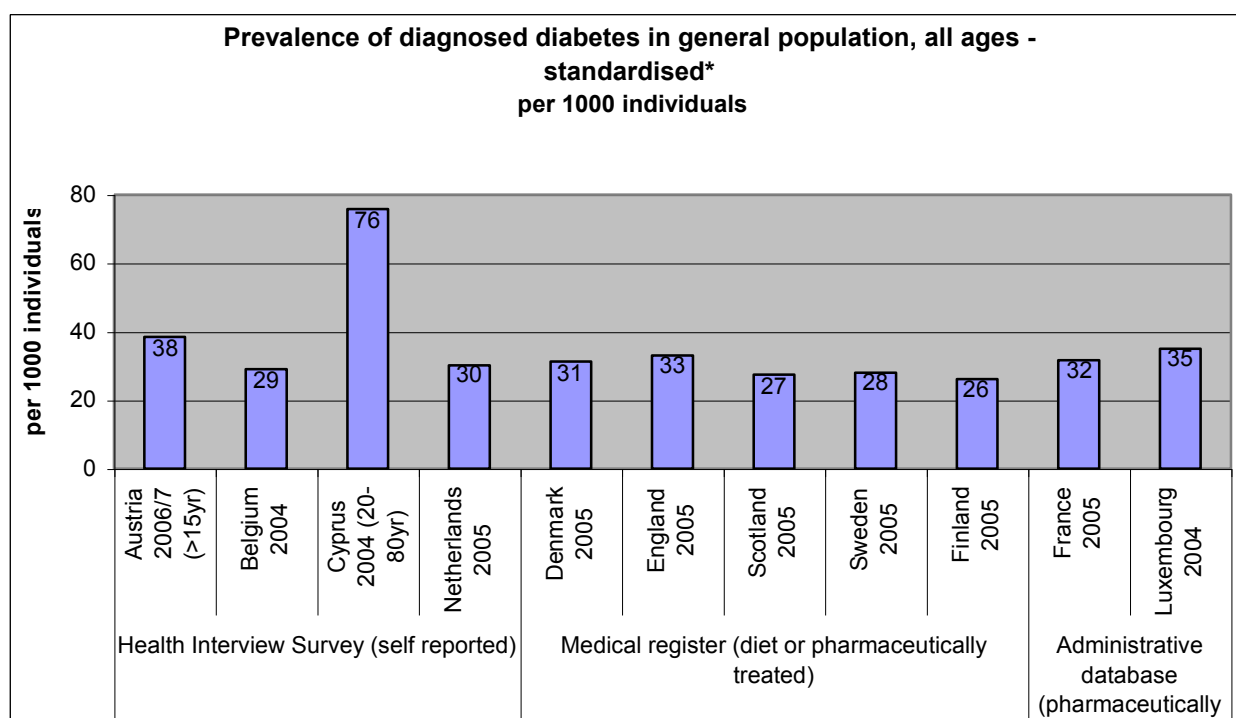
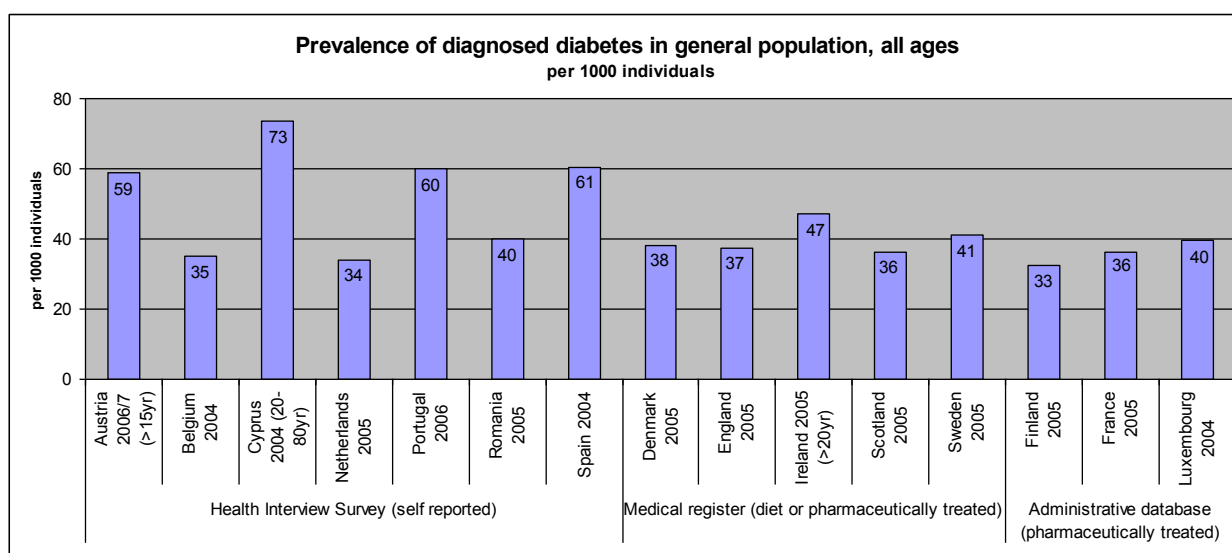
1. Health Interview Survey (HIS), using a national sample
2. Medical registers from regional complete data
3. Administrative databases from antidiabetic drug use

The first includes self reported diabetes, the second all diabetes patients known to the health care system and the third only people who use drugs for the treatment of their diabetes.

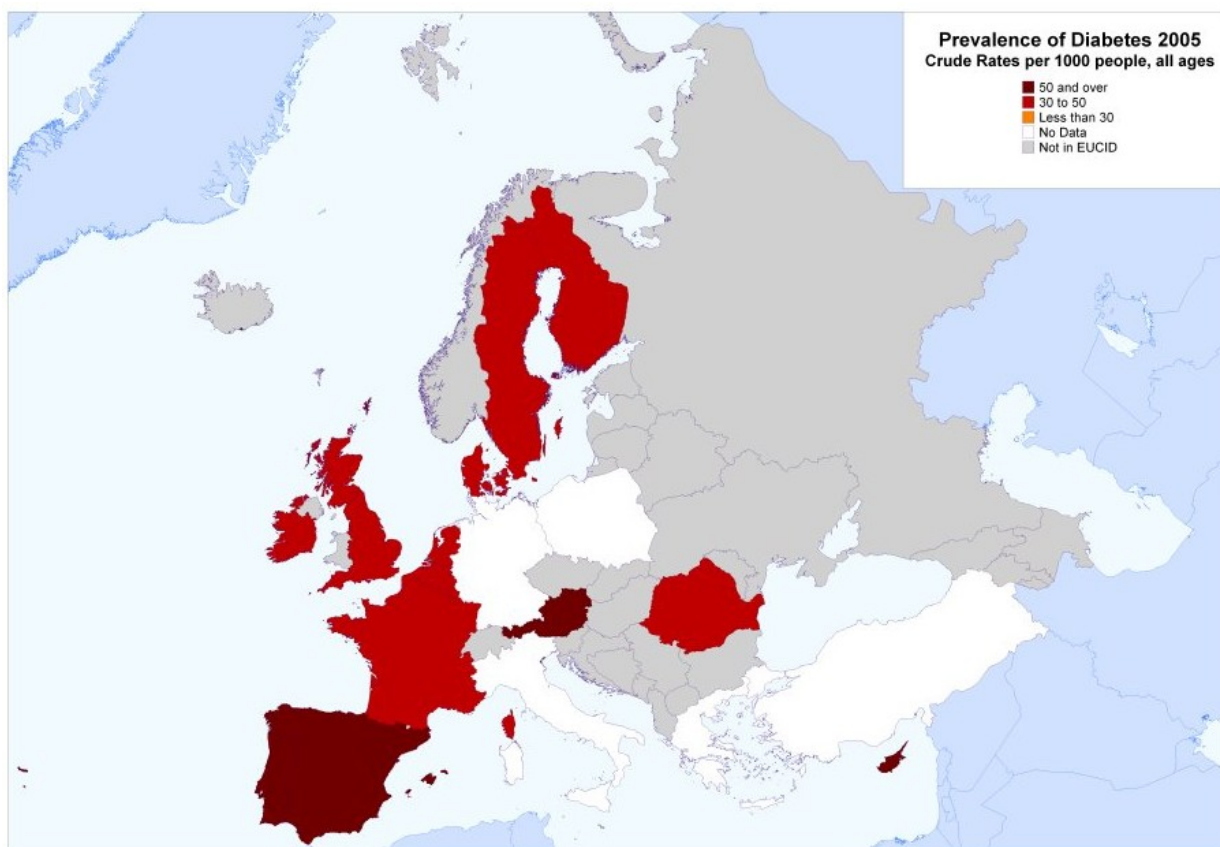
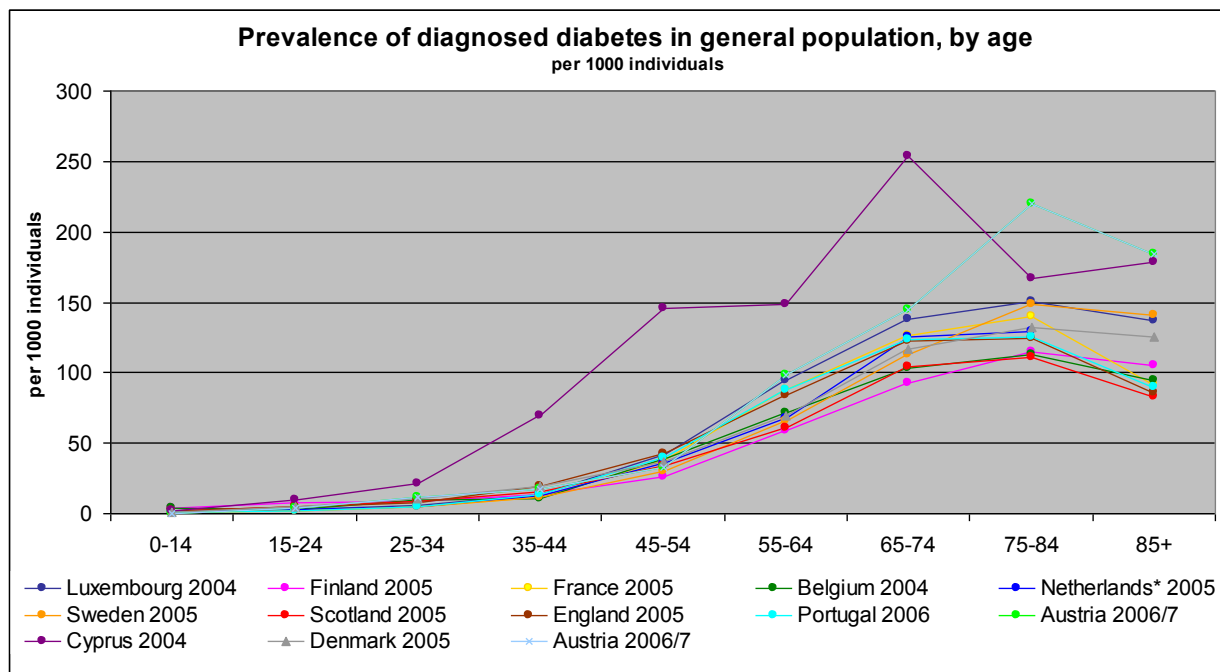
Undiagnosed diabetes is not included in any of the databases and the third source does not include individuals that are treated with diet only.

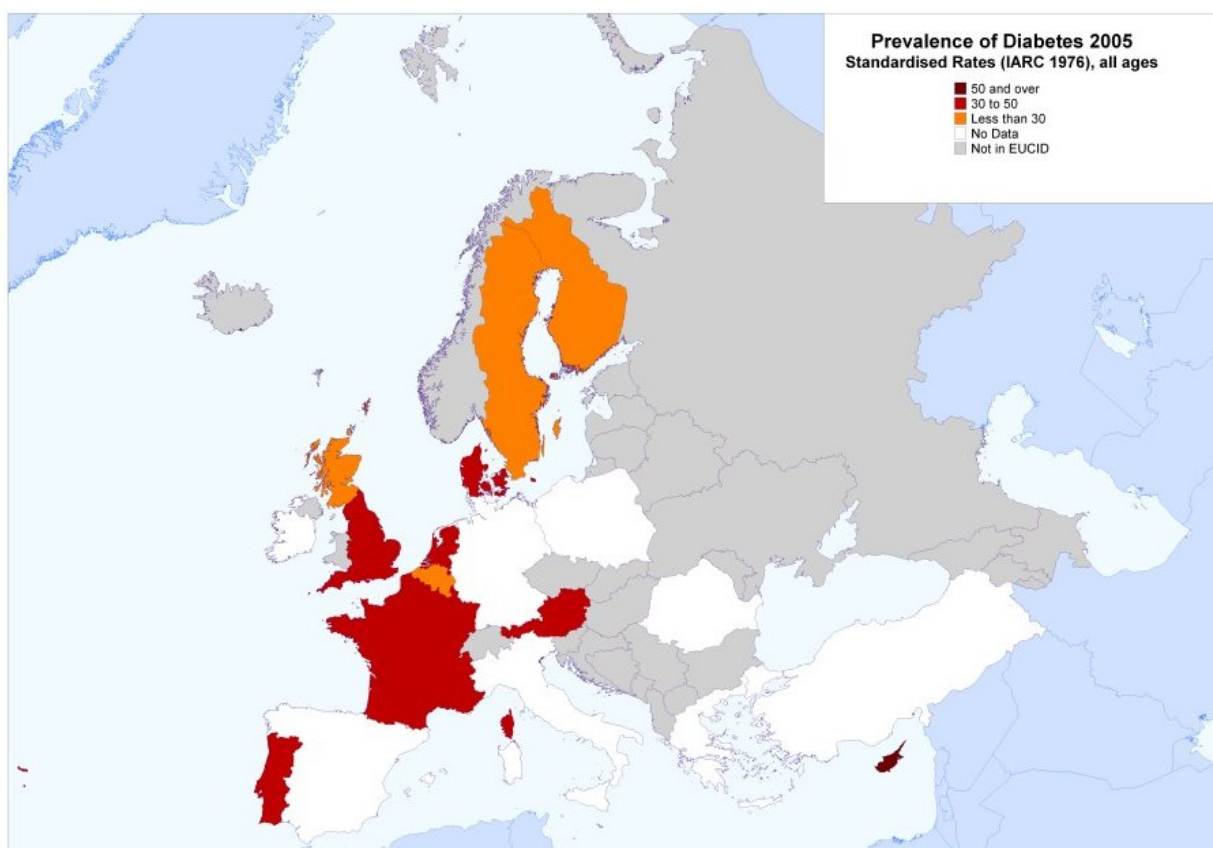
The crude numbers vary from 33 to 73/1000 inhabitants and the adjusted numbers from 26 to 38 with only Cyprus as an outlier of 76/1000 inhabitants. These numbers are considerably lower than the numbers estimated by IDF.

The age bands show, as expected, a considerable rise with age, with a maximum in the age band 75 – 84 years.



* standardised by the age structure of the European population (IARC-1976)





Annual incidence of diabetes by age/100.000 population 0-14 years (core indicator)

Indicator: Annual incidence of diabetes in children (0-14 year), type 1 and 2 not separated

Indicator: Annual incidence of diabetes in children (0-14 year), type 1 and 2 separated

Definition:

The annual incidence of diabetes is defined as the number of new cases of diabetes in children in one year per 100.000 children. Diabetes defined according to WHO/ADA criteria (1998-9).

Data availability

Countries not able to provide data

- Cyprus, Greece, Ireland, Netherlands, Portugal, Turkey

Countries able to provide total but not age band data

- Spain, Germany

Countries able to provide age band data but no total

- Romania (total was provided but was not correct)

Countries not included because data not from 2005 +/- 1 year

- Belgium: data from 1989-2003

– Annual incidence of diabetes in children (0-14 year):

0-4	Type 1	8.3
5-9	Type 1	13.7
10-14	Type 1	17.3
Total	Type 1	13.1

- Italy: data from 1990-2002

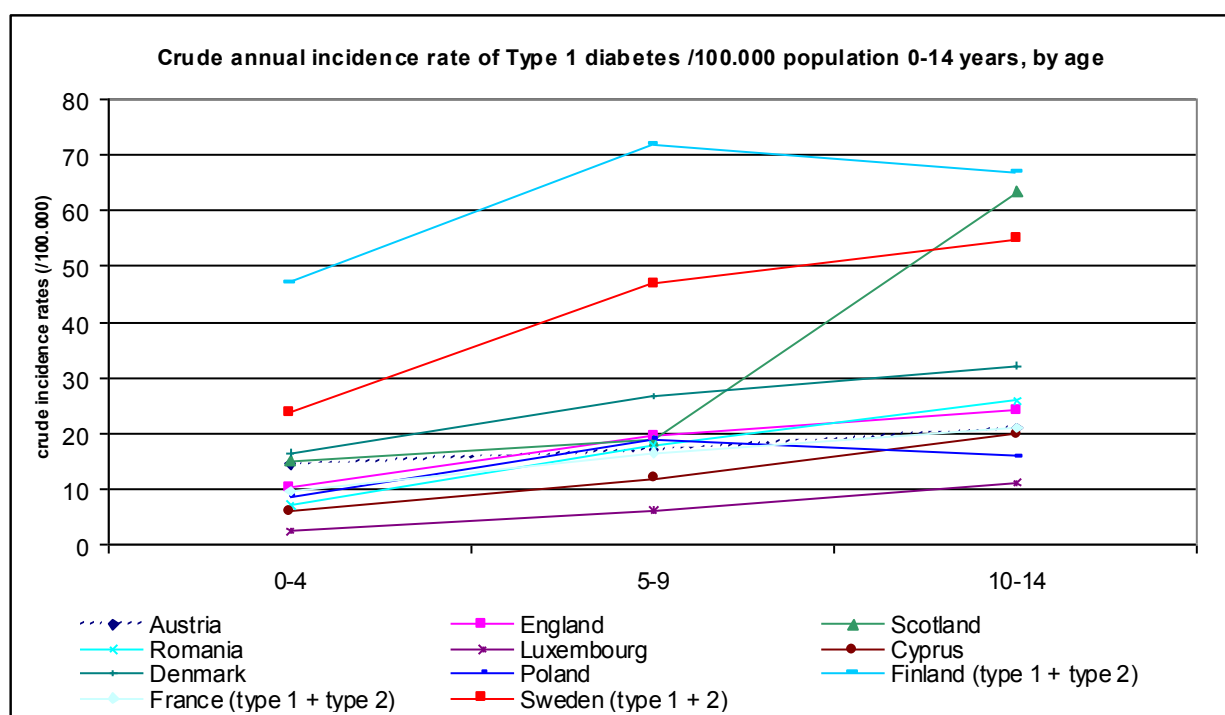
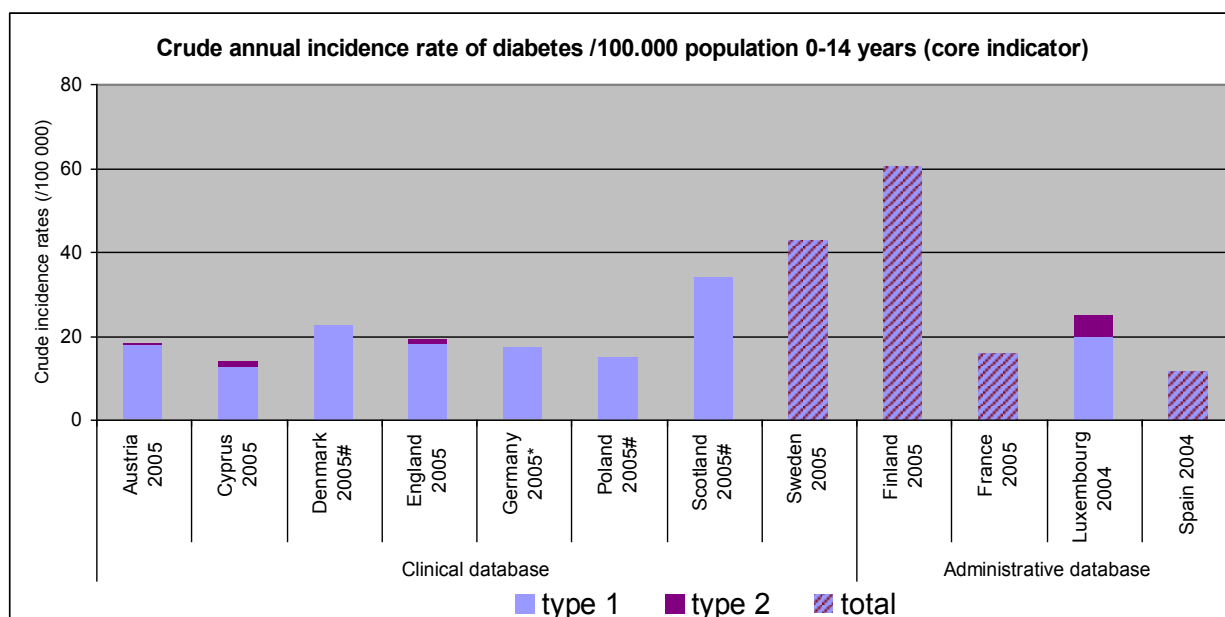
– Annual incidence of diabetes in children (0-14 year):

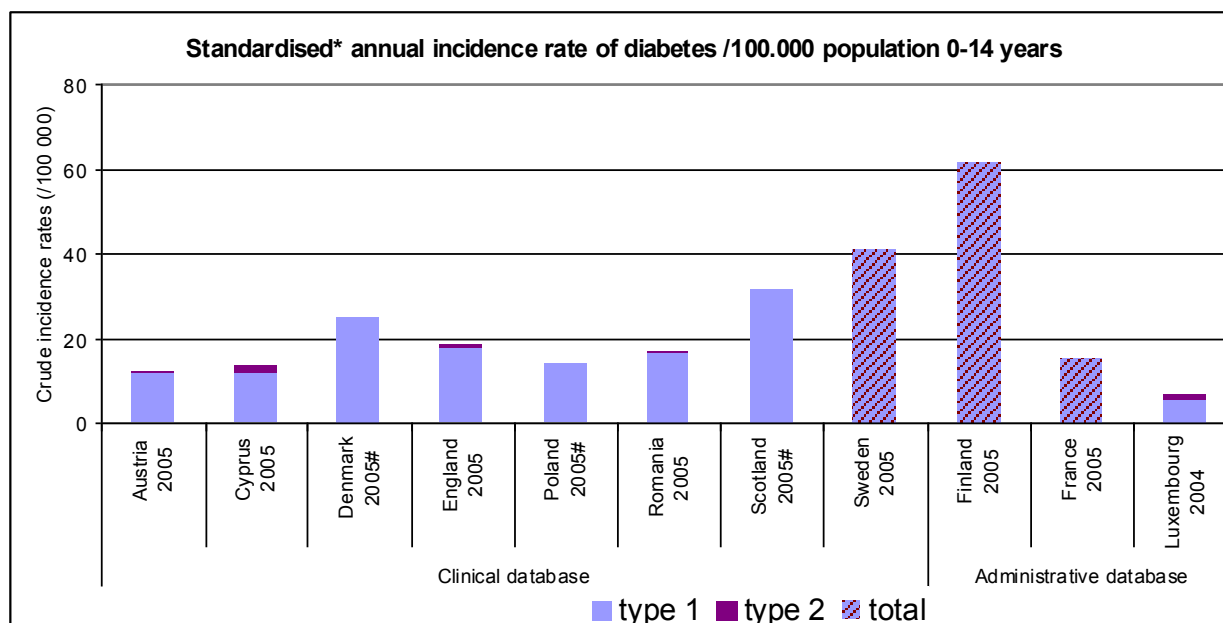
0-4	Type 1	8.66
5-9	Type 1	13.65
10-14	Type 1	14.71
Total	Type 1	8.78

Discussion

There is a wide variation of the incidence of diabetes in children reported amongst the countries. After standardisation the countries that are known for high incidence are Finland and Sweden, with Scotland and Romania as having a high incidence also as a surprise. Scotland had the highest incidence in the group of 10-14 years of age. The data show an expected increase in incidence with age until 10-14 years.

Only 5 countries were able to provide data for type 2 diabetes in children.





* standardised by the age structure of the European population (IARC-1976)

no (or just a few) children diagnosed with type 2 diabetes

BMI in general population (core indicator)

Indicator: % of general population with BMI \geq 25 respectively BMI \geq 30

Definition:

Body Mass Index (BMI) is defined as weight per square meter (kg/m²).

Data availability

Countries not able to provide data

- Greece, Poland, Portugal, Scotland

Countries able to provide total but no age band data

- Italy, Turkey, Spain. These countries could not be included in the analysis because of the recalculation to 25-74 yrs.

Country	Year	Age range	Gender	BMI \geq 25	BMI \geq 30	BMI 25-30 (calculation)
Italy	2005	18+	Male	44	10	34
		18+	Female	26	10	16
		18+	Total	35	10	25
Turkey	1997-1998	20+	Total	57	22	35
Spain	2005	All ages	Total	37	15	22

Countries not included because data not from 2005 +/- 1 year

Country	Year	Age range	Gender	BMI \geq 25	BMI \geq 30	BMI 25-30 (calculation)
Finland	2000-2001	30-100	Male	67	21	46
		30-100	Female	58	24	34
		30-100	Total	62	22	40
Ireland	2002	18+	Male	41	14	27
		18+	Female	25	12	13
		18+	Total	34	13	21

Countries not included in the analysis because of incomplete data

- Romania

Country not included in map because total data not available

- England

Discussion

On average almost 40% of the population has a BMI $>$ 25, men more than women. This health problem is one of the most important risk factors for the development of type 2 diabetes. It is the only adjustable risk factor for diabetes in a population, although very difficult to influence.

Most databases were Health Interview Surveys, which probably led to an underestimation of obesity and overweight. Only two were Health Interview Examinations, which seem not to be outliers.

The prevalence of overweight and obesity increases with age, with a maximum at 65-74 years of age.

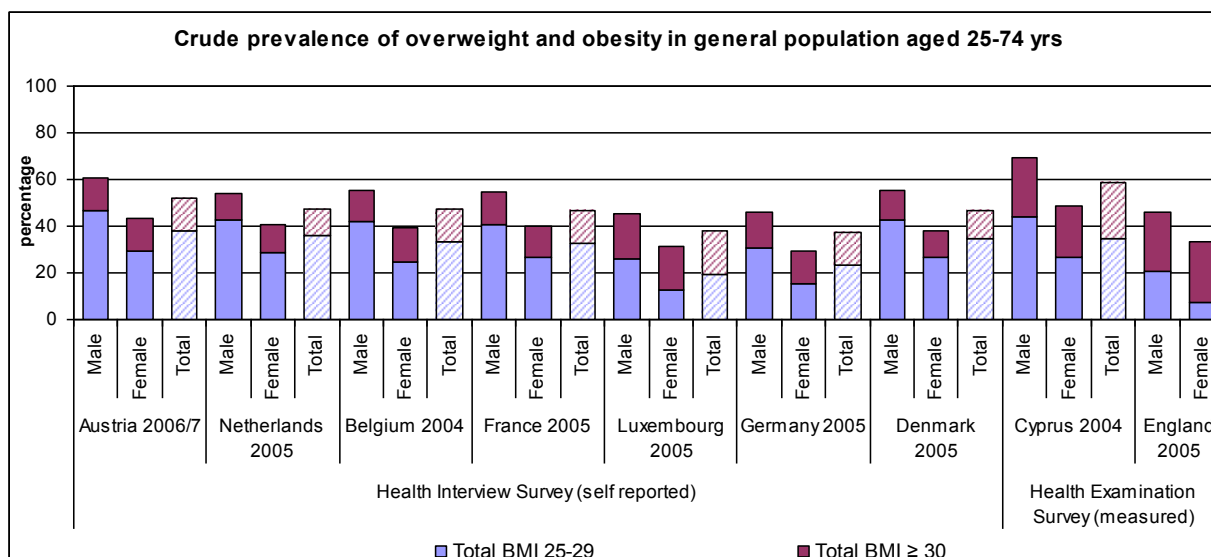
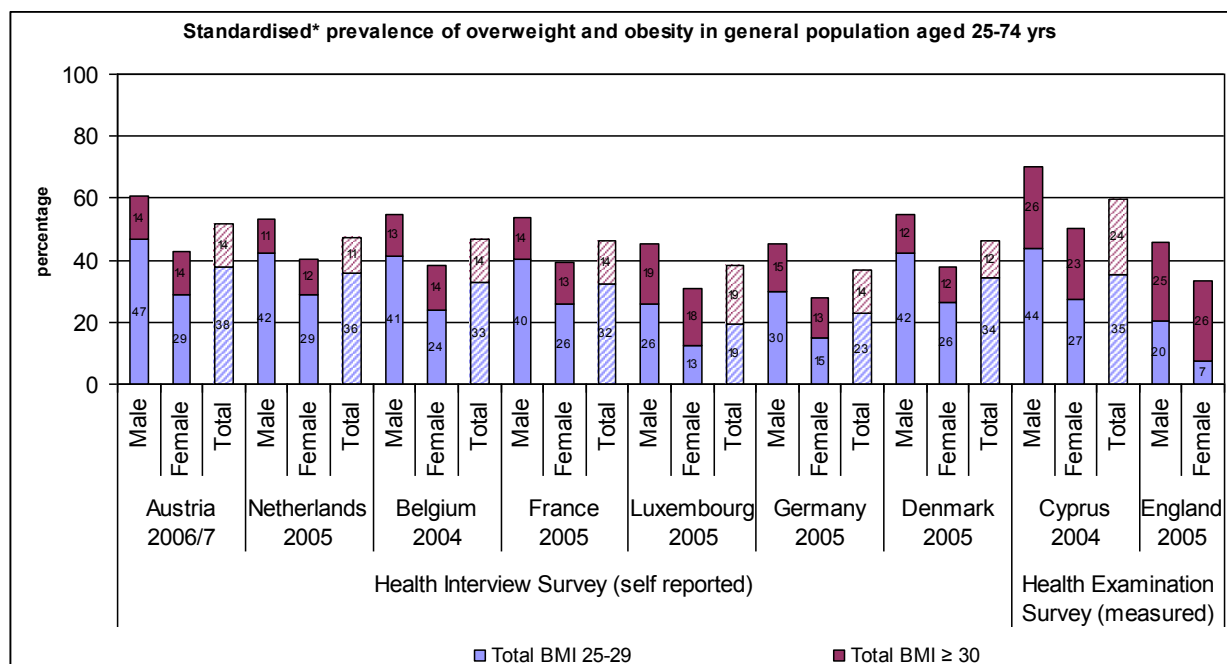


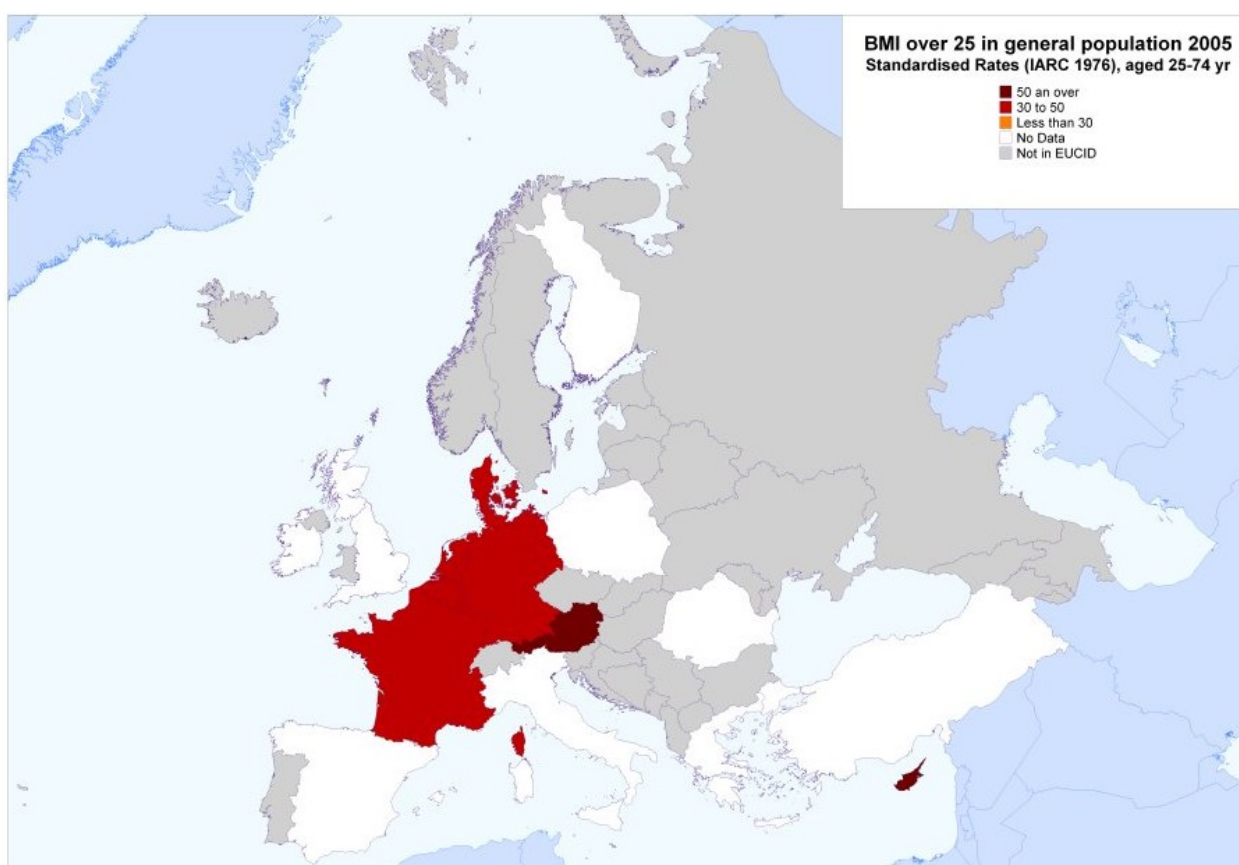
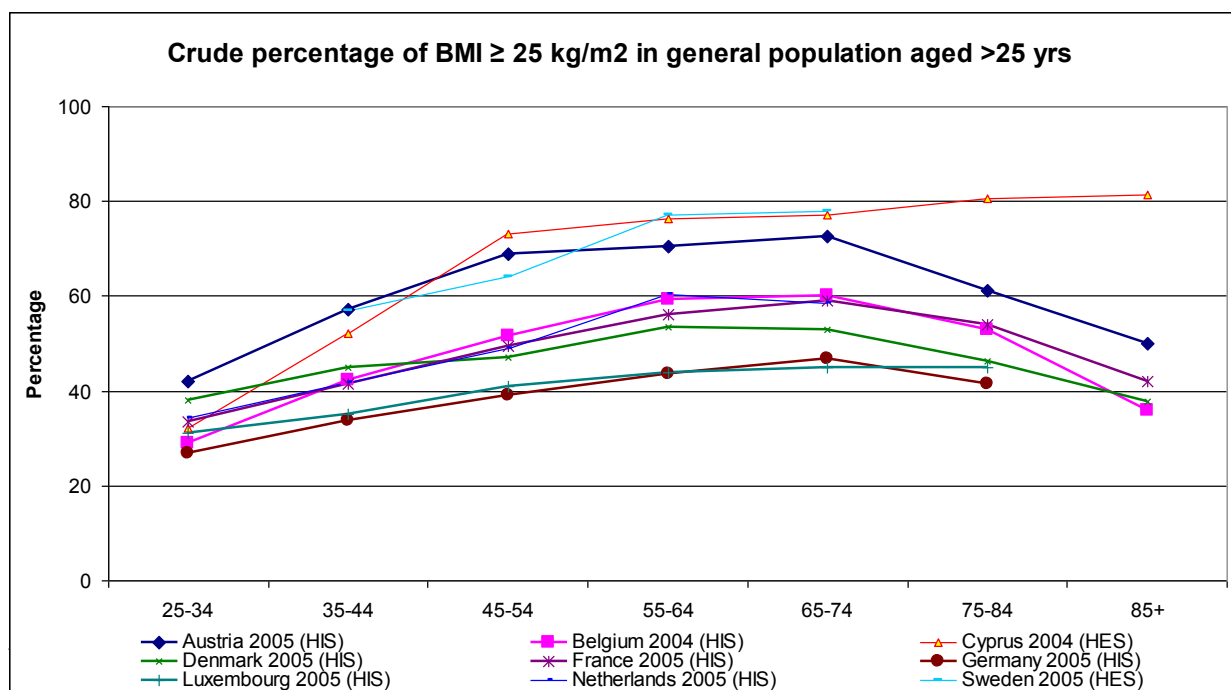
Table. Crude prevalence of overweight and obesity in general population aged 25-75 yrs

	Austria 2006/7			Netherlands 2005			Belgium 2004			France 2005			Luxembourg 2005		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total BMI 25-29	47	30	38	43	29	36	42	25	33	41	27	32	26	13	19
Total BMI ≥ 30	14	14	14	11	12	12	13	15	14	14	13	14	19	18	19
Total BMI ≥ 25	61	44	52	54	41	47	55	39	47	54	40	47	45	31	38

	Germany 2005			Denmark 2005			Cyprus 2004*			England 2005		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total BMI 25-29	30	16	23	43	26	34	44	26	35	20	7	
Total BMI ≥ 30	15	14	15	13	12	12	26	22	24	25	26	
Total BMI ≥ 25	46	29	38	55	38	47	69	49	59	46	33	



* standardised by the age structure of the European population (IARC-1976)



Remark: Error in map: Sweden is partner of the EUCID project and therefore should be white (no data) in stead of gray (not in EUCID). This error could not be changed in the timeframe of the project.

Impaired fasting glucose in general population

Indicator: % of general population with impaired fasting glucose

Definition:

Impaired fasting glucose is defined as fasting plasma glucose equal or above 6.1 mmol/l and below 7.0 mmol/l (fasting plasma glucose $\geq 6,1$ mmol/l and $< 7,0$ mmol/l).

Data availability

Countries not able to provide data:

- Austria, Belgium, Denmark, England, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Spain, Turkey

Countries not included because no data available of the year 2005 +/- 1 year:

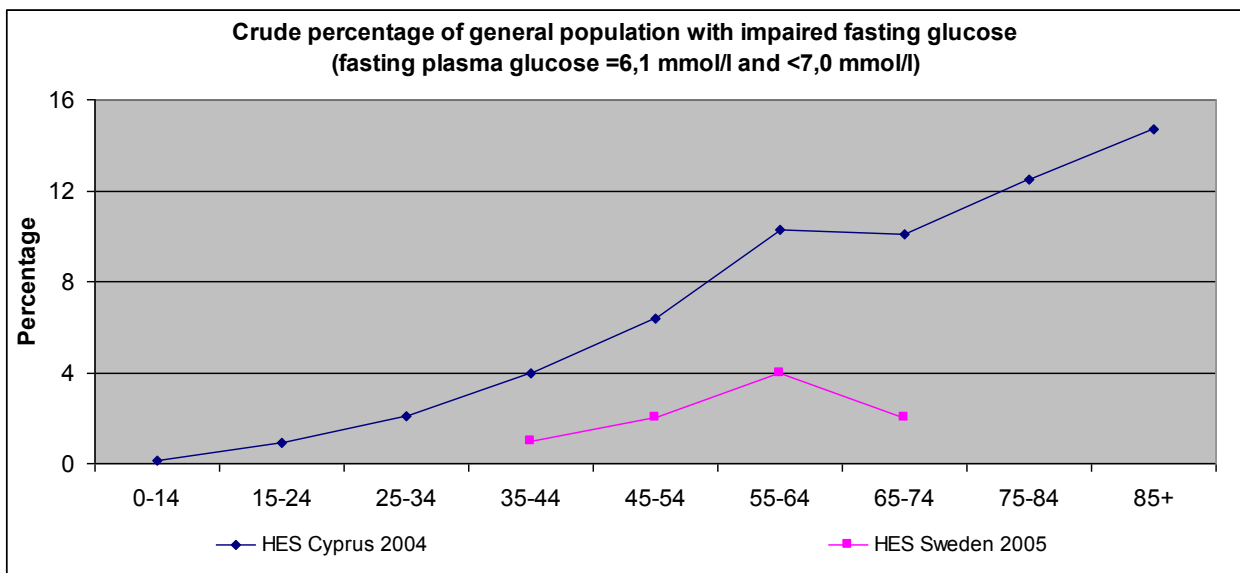
- Finland: data from 2000-2001 (only data reported for 45-64 age bands)
- Germany: data from 2000 (only data reported for 55-74 age bands)

Countries not included because not representative

- Scotland (2005): DARTS is a clinical database and not representative for the general population

Discussion

Very little data are available for this indicator for the years 2005 +/- 1. So no real European comparison is possible. This may be due to the fact that this indicator relies in HES, and a HES on a national scale is not likely to be performed on a 3 yearly basis and certainly not in the same year in the different countries. A common European HES with regular synchronized intervals would certainly help provide comparable data.



Mortality in general population caused by diabetes (core indicator)

Indicator: Annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population

Definition:

Annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population.

Data availability

Countries not able to provide data

- Cyprus, Greece, Poland, Romania, Scotland, Turkey

Countries not included because no data available of the year 2005 +/- 1 year:

- Belgium: data from 1997
 - Adjusted annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population: 23
 - Crude annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population: 17
- Italy: data from 2002
 - Adjusted annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population: 18

Countries able to provide adjusted mortality rate but no age band data

The standardised mortality rate could not be calculated.

- Spain: data from 2005
 - Adjusted annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population: 23
- England: data from 2005
 - Adjusted annual death rate in patients who have as primary cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population: 7

Discussion

Comparison with EUROSTAT data

When the EUCID data are compared with EUROSTAT data it looks like that Luxembourg, and the Netherlands gave data for mortality caused by diabetes as initial (primary) cause in stead of initial and contributed (secondary) cause. The Dutch source claimed after re-examination that they were correct.

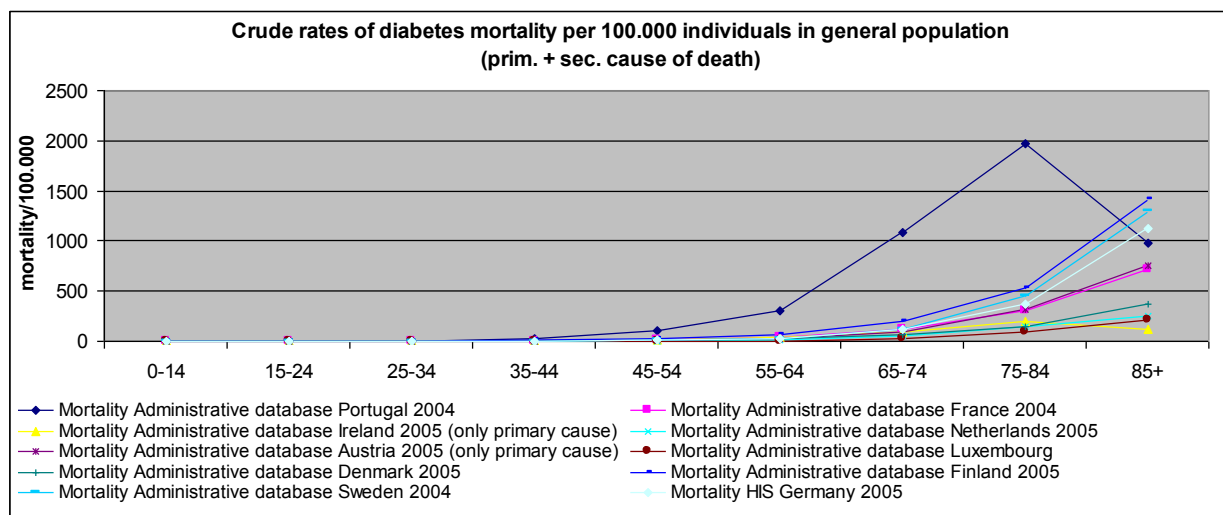
Austria and Ireland already stated that their data are only primary cause of death.

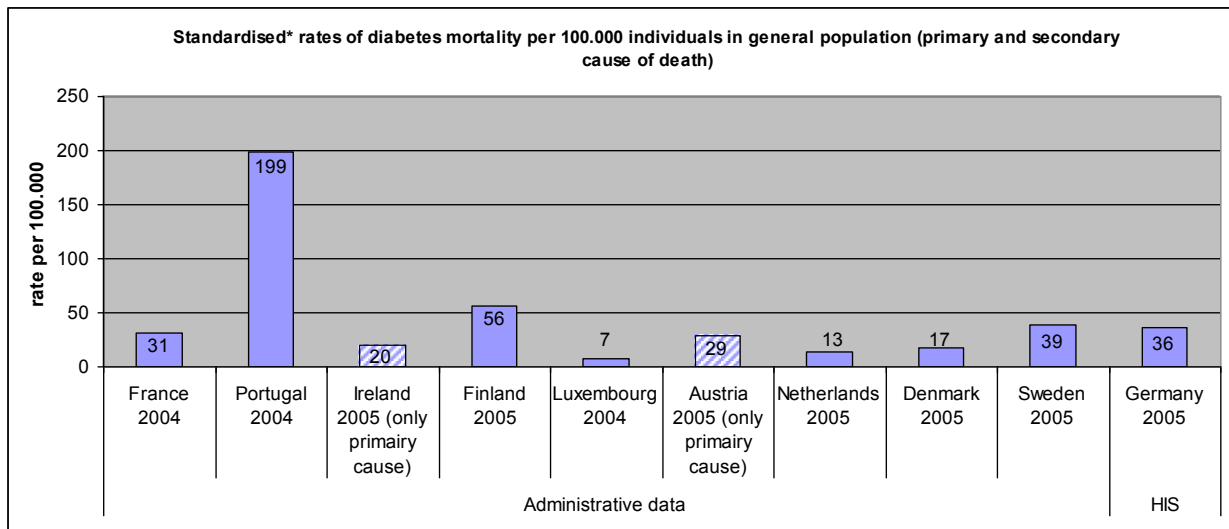
The Portuguese data were confirmed.

Standardised Mortality Rate

Country	Year	EUCID data (prim + sec cause of death)	EUROSTAT data (prim cause of death only)
France	2004	31	11
Portugal	2004	199	28
Ireland	2005	20	10
Finland	2005	56	7
Luxembourg	2004	7	7
Austria	2005	29	28
Netherlands	2005	13	17
Germany	2005	36	17
Denmark	2005	17	-
Sweden	2005	39	12 (data of 2004)

Death certificates are very much oriented on primary cause of death. Secondary causes are not emphasised. Second diagnoses are not filled in on a consequent basis and missed many times. When awareness is raised for a certain disease this second diagnosis is filled also. Another reason could be different ways for reimbursement for hospital expenses if a second diagnosis is present. The only way to obtain reliable data for this indicator would be to connect a national diabetes database with the national death register. The DARTS project in Scotland has this possibility as have some Scandinavian countries and France.





* standardised by the age structure of the European population (IARC-1976)

Indicators part 2 – Risk factors – biomedical measures

- HbA1c tested
- HbA1c
- Cholesterol tested
- Cholesterol > 5 mmol/l
- LDL-Cholesterol tested
- LDL-Cholesterol > 2.6 mmol/l
- HDL-Cholesterol tested
- HDL-Cholesterol <1.0 men and <1.25 women
- Triglycerides tested
- Triglycerides < 2.3 mmol/l
- Albuminuria tested
- Albuminuria abnormal

Most of these clinical data originated from regional or several regional clinical databases combined. It is not sure whether they represent the national situation properly, but are data direct from clinical practice. Some were samples for intensively treated patients (e.g. Belgium), while others were complete data for a region (e.g. Scotland).

HbA1c in diabetic population

Indicator: % with HbA1c tested in last 12 months

Definition:

Percentage of total diabetic population that had their HbA1c measured in the last 12 months.

Data availability

Countries not able to provide data

- Greece, Poland, Portugal, Turkey

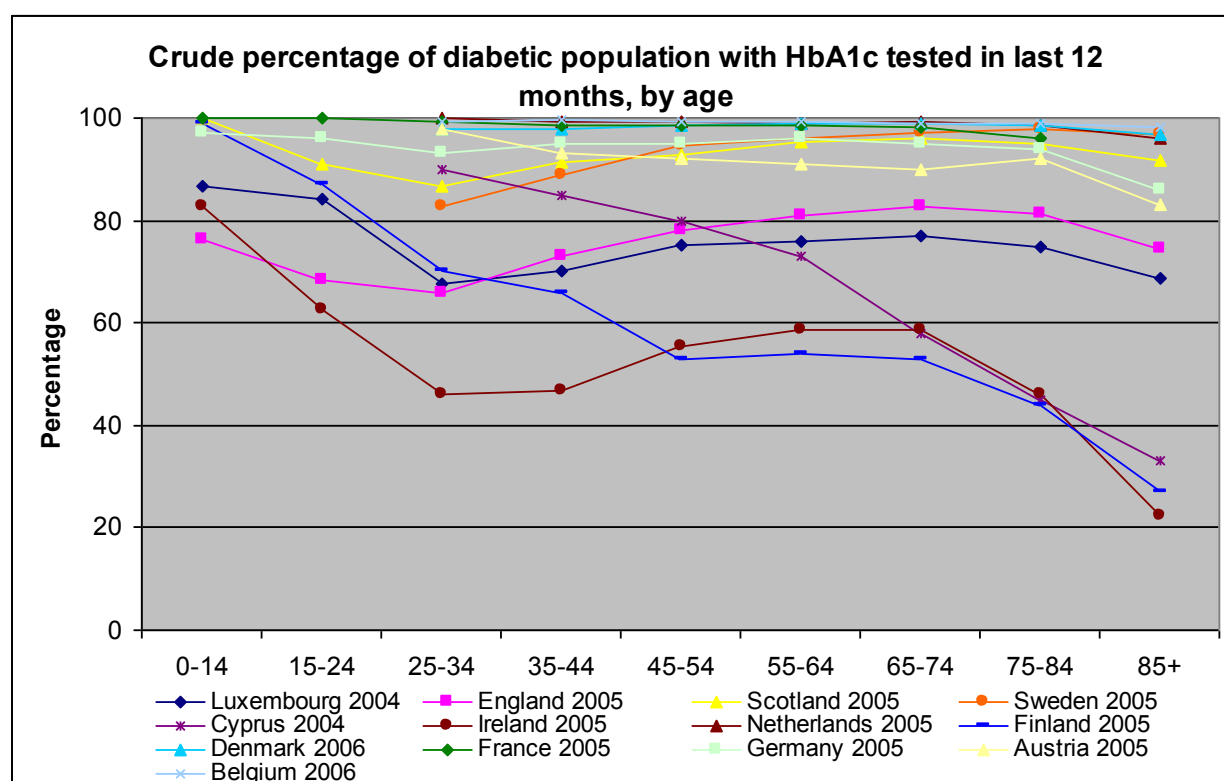
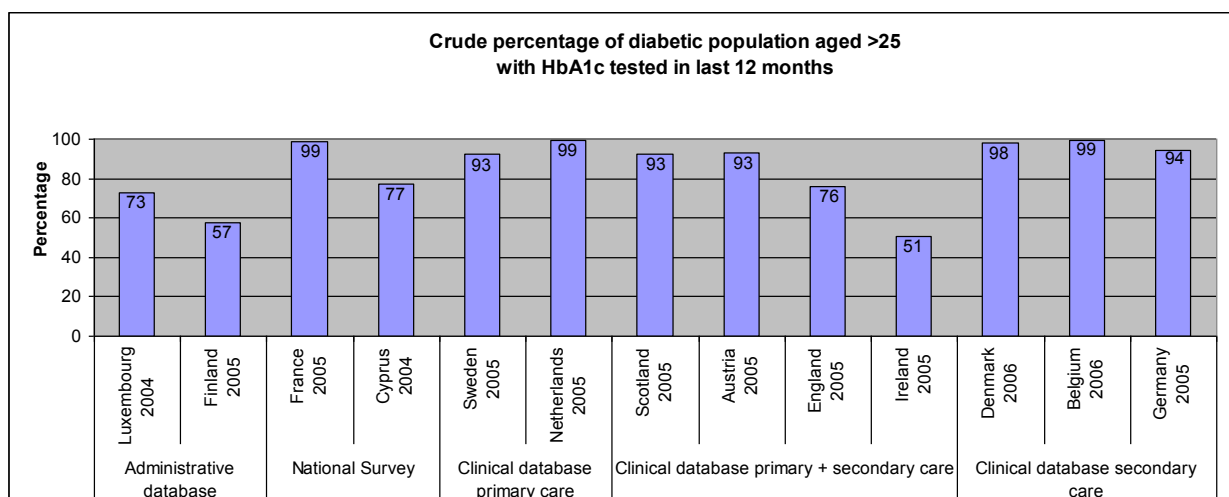
Countries able to provide total but no age bands

- Italy: data of 2004
 - % with HbA1c tested in last 12 months: 88% (all ages)
- Romania: data of 2005
 - % with HbA1c tested in last 12 months: 3% (unknown age range)
- Spain: data of 2005
 - % with HbA1c tested in last 12 months: 19% (ages 15-85+)

Discussion

Since HbA1c is to be measured at least once a year this indicator should be 100% for all age ranges. Some guidelines advice to measure HbA1c every 3 months. The range is from 51 to 99%. Different ways of collection seem to have influenced the outcome of the indicator. For example secondary care will provide more specific care and data collected through this single source will lead to an overestimation of the frequency.

In some databases the percentage declines with age, which may reflect a decline in quality of care with age.



Indicator: % of those tested with HbA1c >7,0%**Definition:**

Percentage of total diabetic population with HbA1c tested, where HbA1c is above 7.0 %

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Romania

Countries able to provide total but no age bands

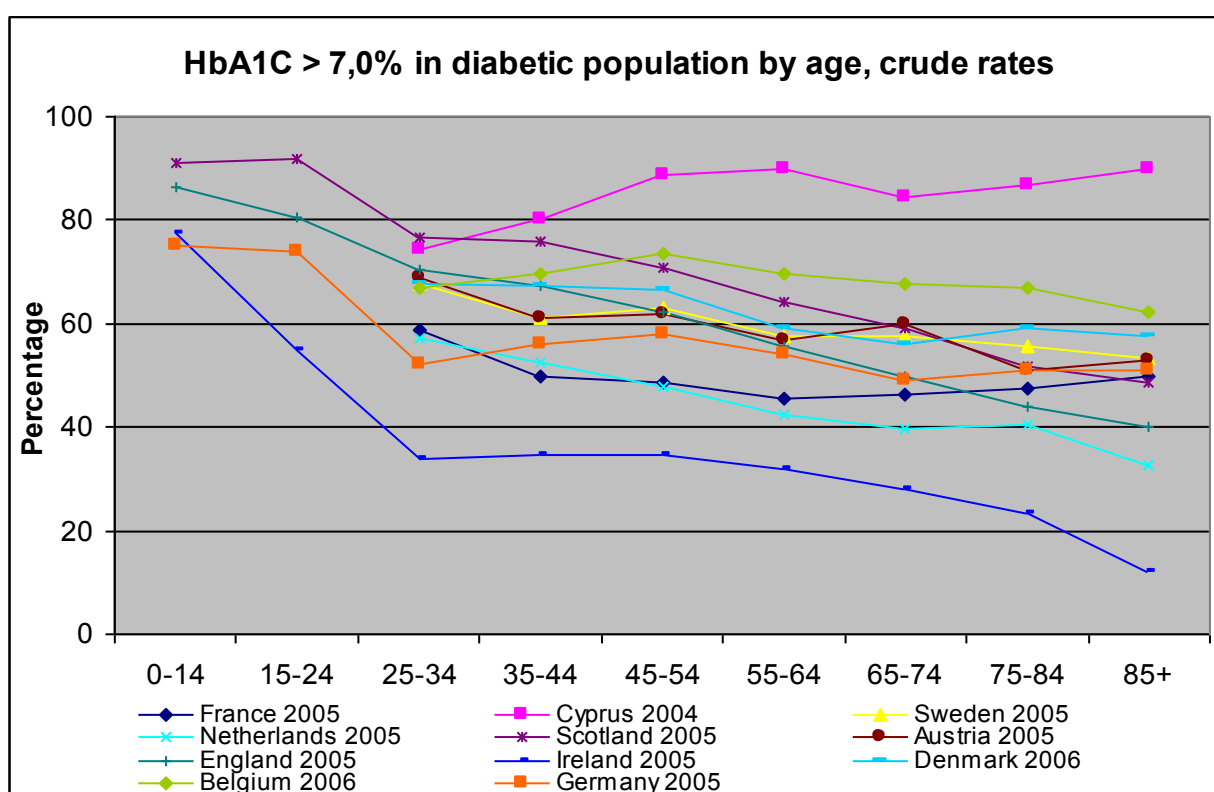
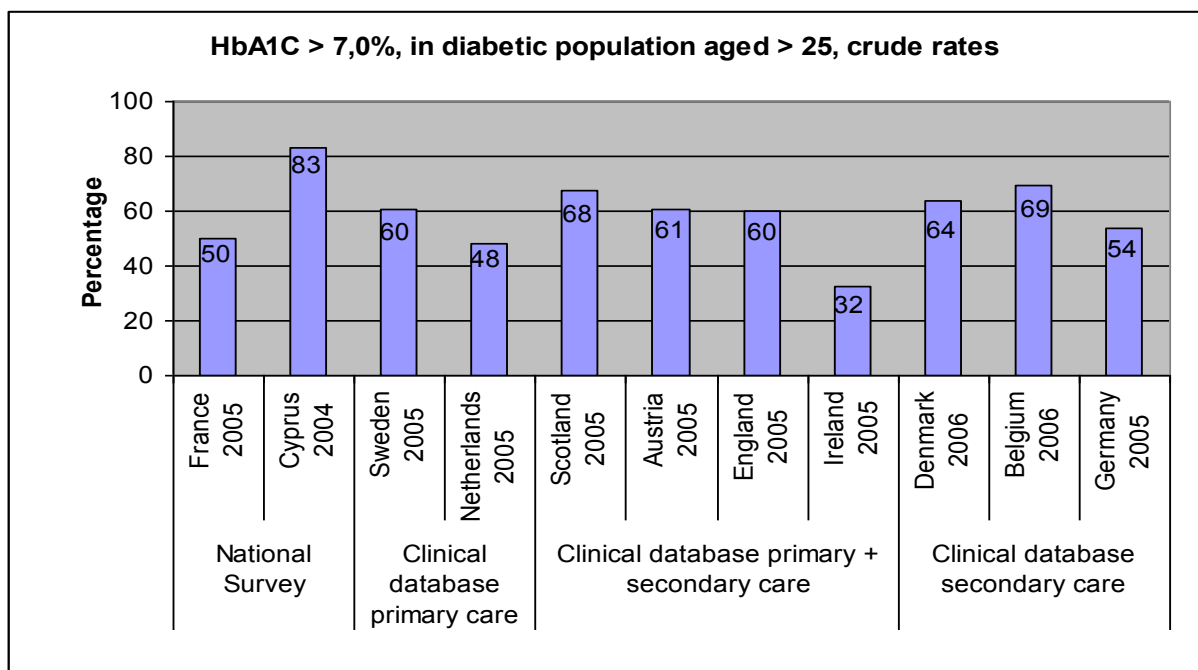
- Italy: data of 2004
 - % of diabetic population with HbA1c tested, where HbA1c is above 7,0 %: 57% (all ages)
- Spain: data of 2005
 - % of diabetic population with HbA1c tested, where HbA1c is above 7,0 %: 64% (ages 15-85+)

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of diabetic population with HbA1c tested, where HbA1c is above 7,0 %: 69% (aged 20-82 yr)

Discussion

Reaching optimal blood glucoses in diabetes is important for general well being and the optimisation of the risk for microvascular complications. The goal is set for a HbA1c below 7% in most guidelines, although some even give 6.5% as a goal. The percentage where this 7% goal is achieved differs considerably amongst databases up to a factor 3. The age bands show a downward trend with age in many countries. Not many data are available for children, but the few available show the highest number, indicating the difficulty to reach optimal blood glucose control in children.



Lipids in diabetic population

Indicator: % with total cholesterol tested in last 12 months

Definition:

Percentage of total diabetic population that had their total cholesterol tested in the last 12 months.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Turkey

Countries able to provide total but no age band data

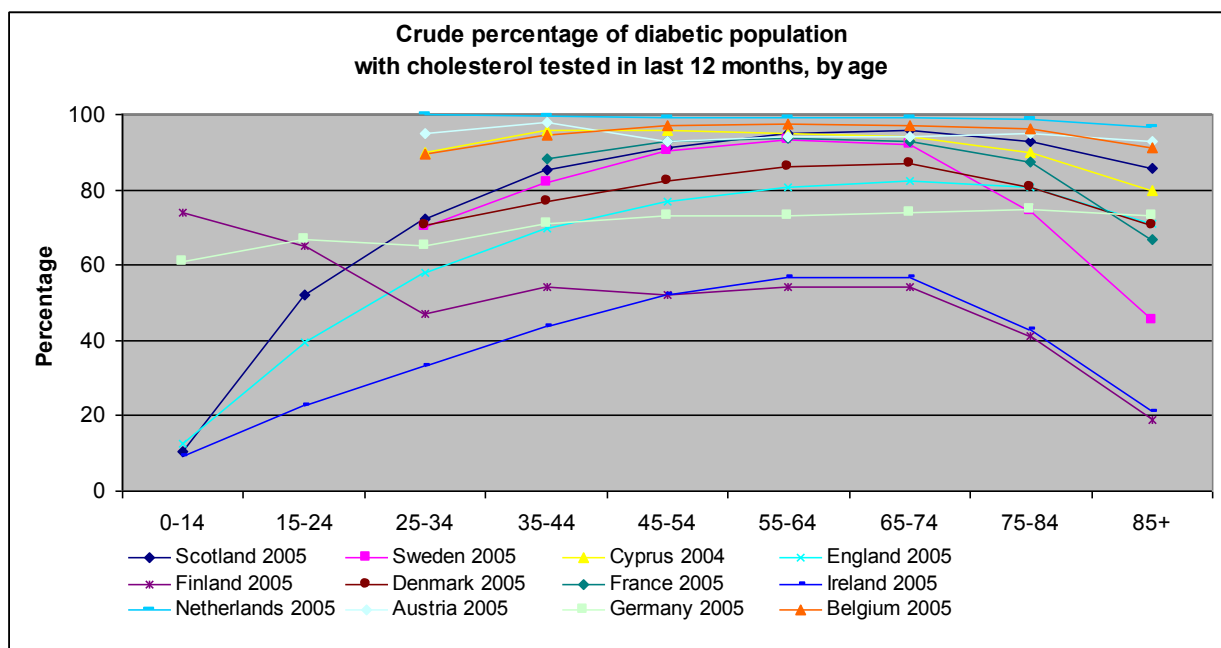
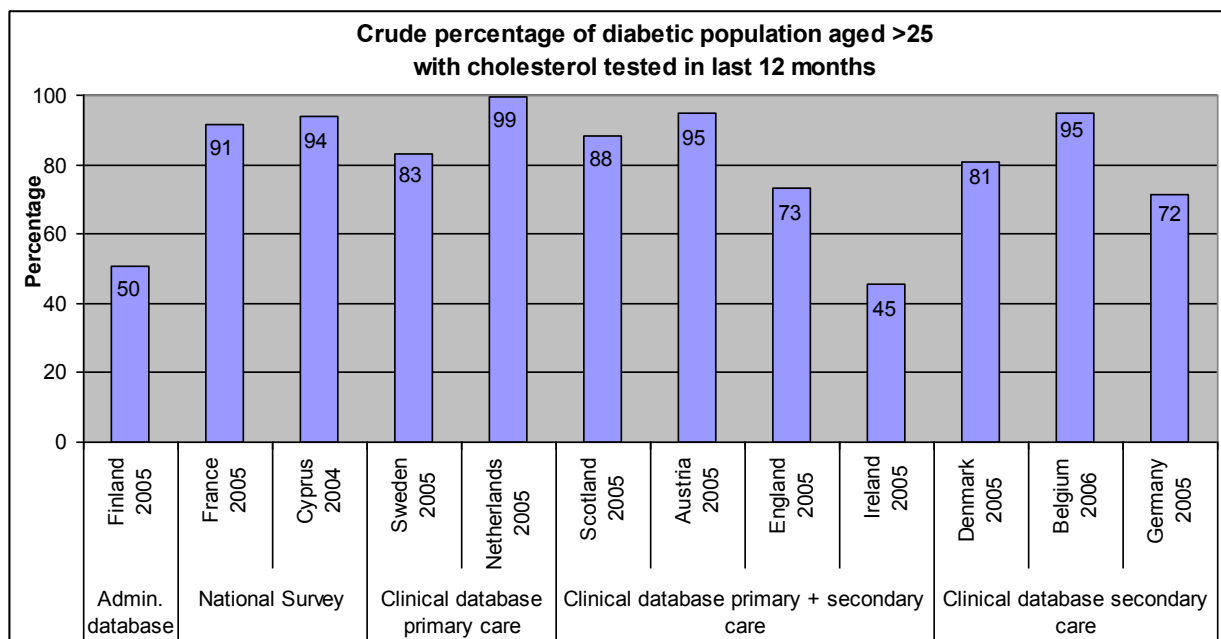
- Spain: data from 2005
 - % of diabetes population with cholesterol tested in last 12 months: 50% (age 15-85+)
- Romania: data from 2005
 - % of diabetes population with cholesterol tested in last 12 months: 20% (age unknown and 80% missing data)
- Italy: data from 2004
 - % of diabetes population with cholesterol tested in last 12 months: 70% (all ages)

Discussion

Since total cholesterol has to be measured at least once a year, as indicated by most clinical guidelines, this percentage should be 100% in all databases.

The guidelines could also indicate to measure it once every two years when normal. We were not informed what guidelines were applied in the clinical setting where these data originated from.

The percentages vary from 45 to 99%. There also seems to be an age dependency with a maximum of 55 to 74 years. There is a lack of measurement in the young age group, despite existing recommendations for testing even in children with diabetes. The decrease after the age of 65-74 years, may reflect a decline of quality of care with age, despite existing recommendations for testing.



Indicator: % of those tested with total cholesterol > 5 mmol/l**Definition:**

Percentage of diabetic population with their total cholesterol tested in last 12 months with a total cholesterol above 5 mmol/l.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Romania

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of those tested with total cholesterol > 5 mmol/l: 58% (aged 20-82 yr)

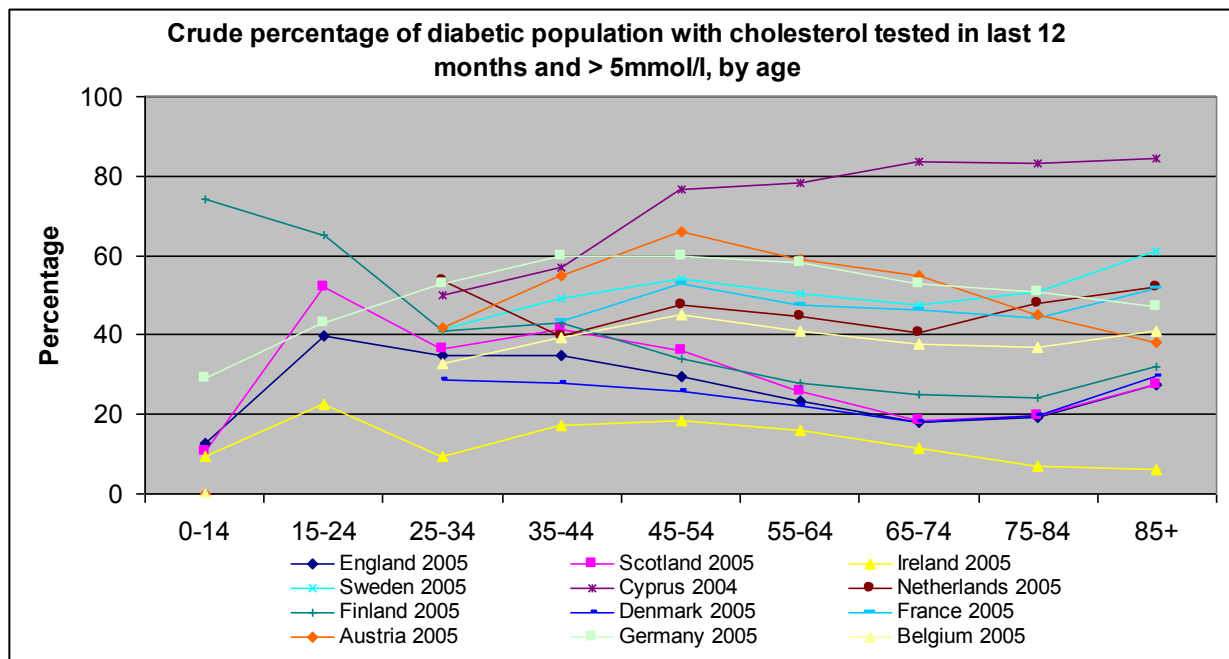
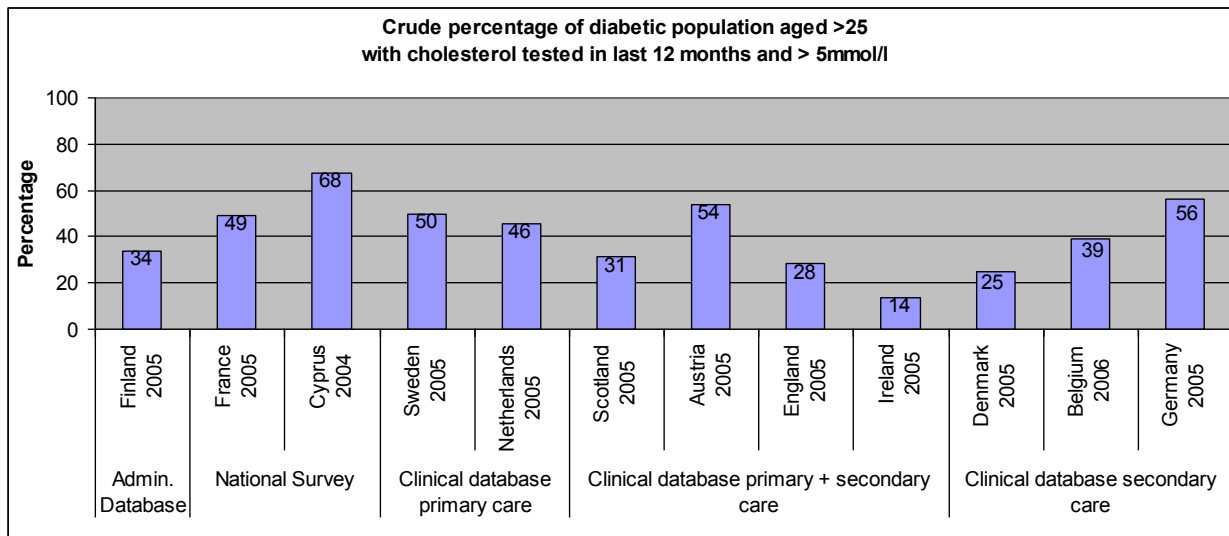
Countries able to provide total but no age band data

- Spain: data from 2005
 - % of diabetes population with cholesterol > 5 mmol/l: 80% (age 15-85+)
- Italy: data from 2004
 - % of diabetes population with cholesterol > 5 mmol/l: 46% (all ages)

Discussion

There is much discussion about the best way to analyse the risk of cholesterol for macrovascular disease. Total cholesterol above 5.0 mmol/l however is acknowledged by many guidelines as a screening target.

In our databases this increased risk factor was found in 14 to 68% of the population. The age did not seem to have a major influence on this percentage.



Indicator: % with LDL-cholesterol tested in last 12 months**Definition:**

Percentage of diabetic population that had their LDL-cholesterol tested in the last 12 months.

Data availability

Countries not able to provide data

- England, Greece, Luxembourg, Poland, Portugal, Turkey, Romania

Countries able to provide total but no age band data

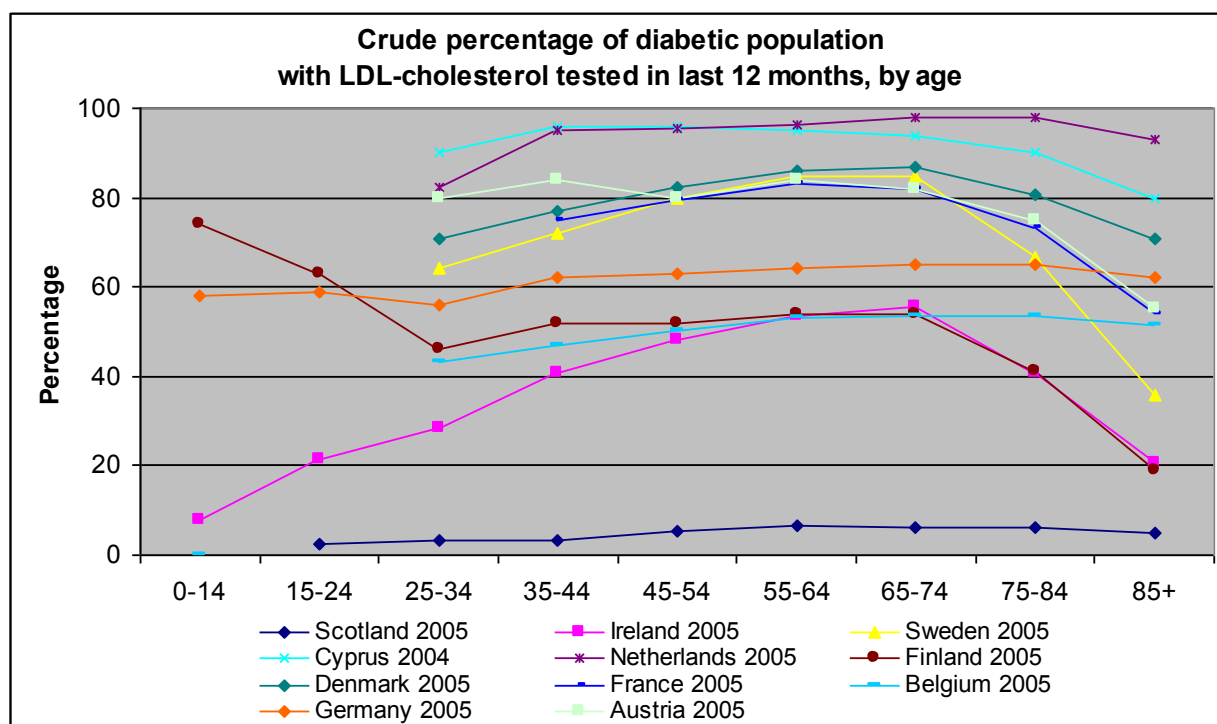
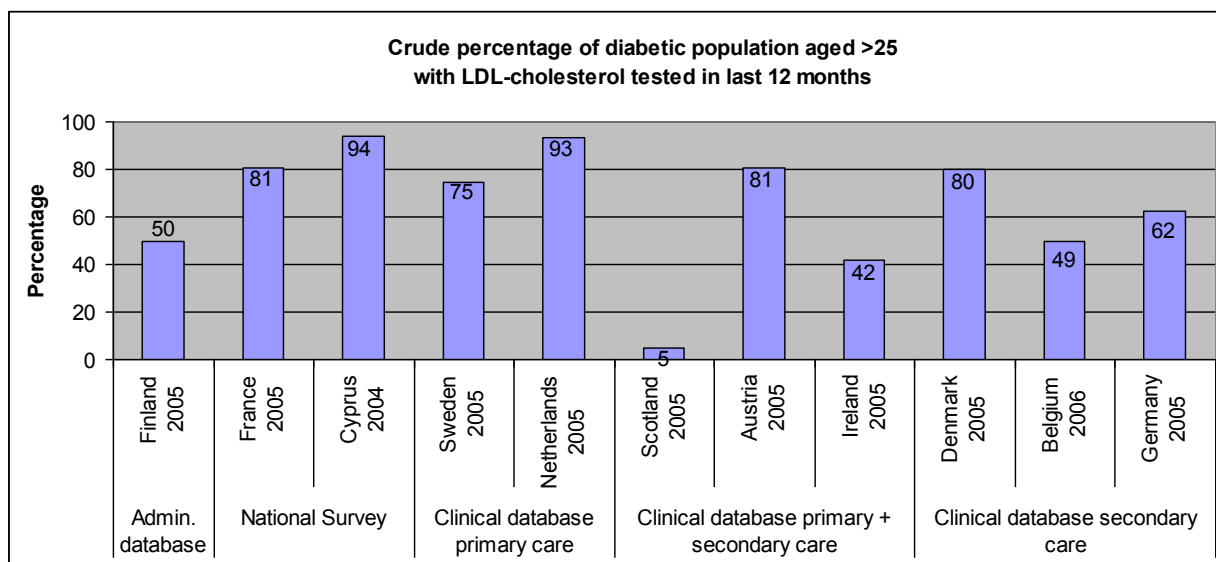
- Spain: data from 2005
 - % of diabetes population with LDL-cholesterol tested in last 12 months: 83% (age 18-80)
- Italy: data from 2004
 - % of diabetes population with LDL-cholesterol tested in last 12 months: 65% (all ages)

Discussion

When treating Cholesterol level as a risk factor for macrovascular disease the goal to reach is a certain LDL level. Guidelines differ in the advice to measure LDL-Cholesterol on a regular basis.

The indicator varies between countries from 5 to 94 %. The lowest percentage was in Scotland, where the treatment of elevated cholesterol is based on total and HDL cholesterol.

The decrease with age above 75 years may reflect a decline in quality of care, despite existing recommendations for testing.



Indicator: % of those tested with LDL-cholesterol >2,6 mmol/l**Definition:**

Percentage of diabetic population with their LDL-cholesterol tested in last 12 months with a LDL cholesterol above 2,6 mmol/l.

Data availability

Countries not able to provide data

- England, Greece, Luxembourg, Poland, Portugal, Romania

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of diabetes population with LDL-cholesterol >2,6 mmol/l: 66% (aged 20-82 yr)

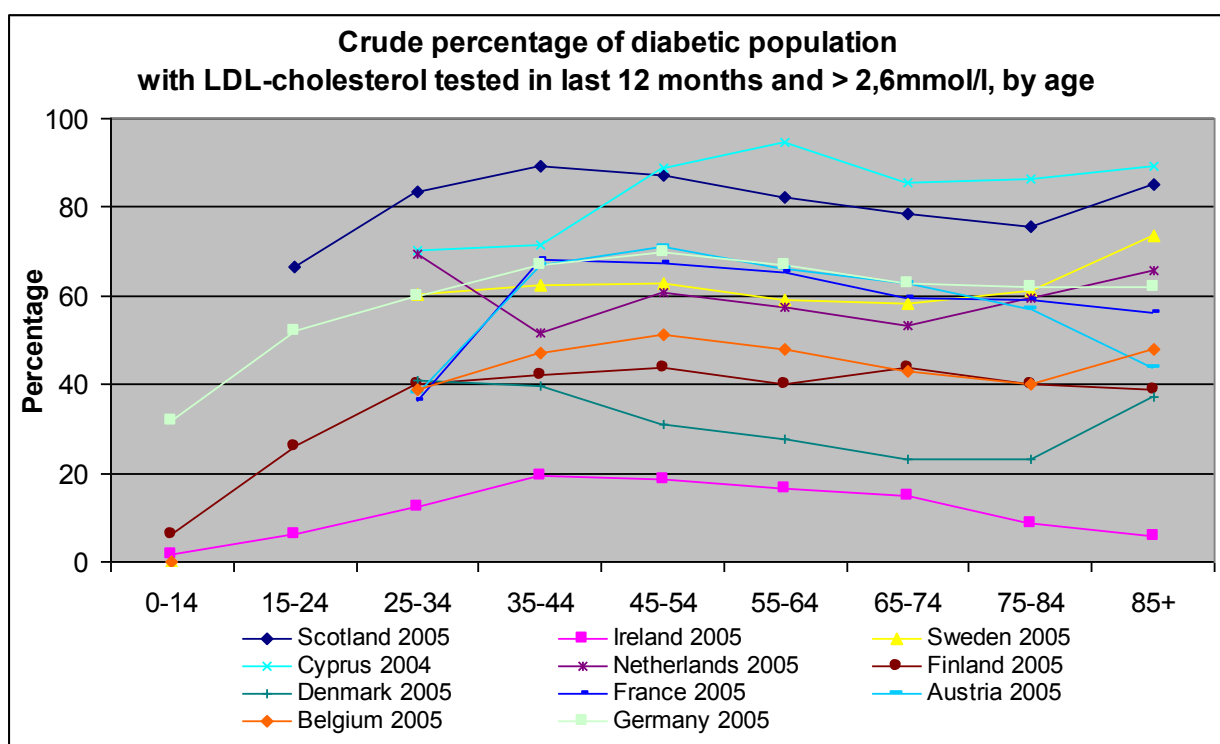
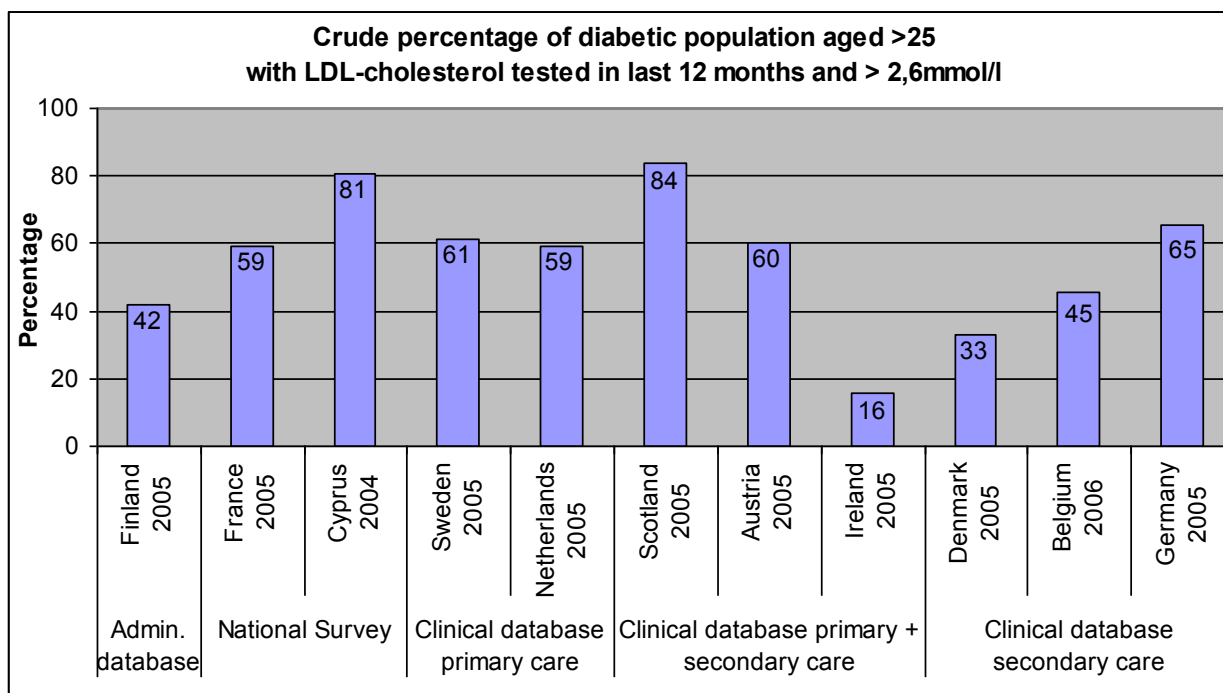
Countries able to provide total but no age band data

- Spain: data from 2005
 - % of diabetes population with LDL-cholesterol >2,6 mmol/l: 83% (age 18-80)
- Italy: data from 2004
 - % of diabetes population with LDL-cholesterol >2,6 mmol/l: 70% (all ages)

Discussion

The treatment goal for cholesterol is in many guidelines defined as a certain level of LDL cholesterol. The treatment goal of 2.6 mmol/l is the highest one, with some guidelines advising even as low as 2.0 mmol/l.

The percentages vary from 16 to 84. Apart from the children, that have lower figures, there seems not to be a significant age effect.



Indicator: % with HDL-cholesterol tested in last 12 months**Definition:**

Percentage of total diabetic population that had their HDL-cholesterol tested in the last 12 months.

Data availability

Countries not able to provide data

- England, Greece, Luxembourg, Poland, Portugal, Turkey

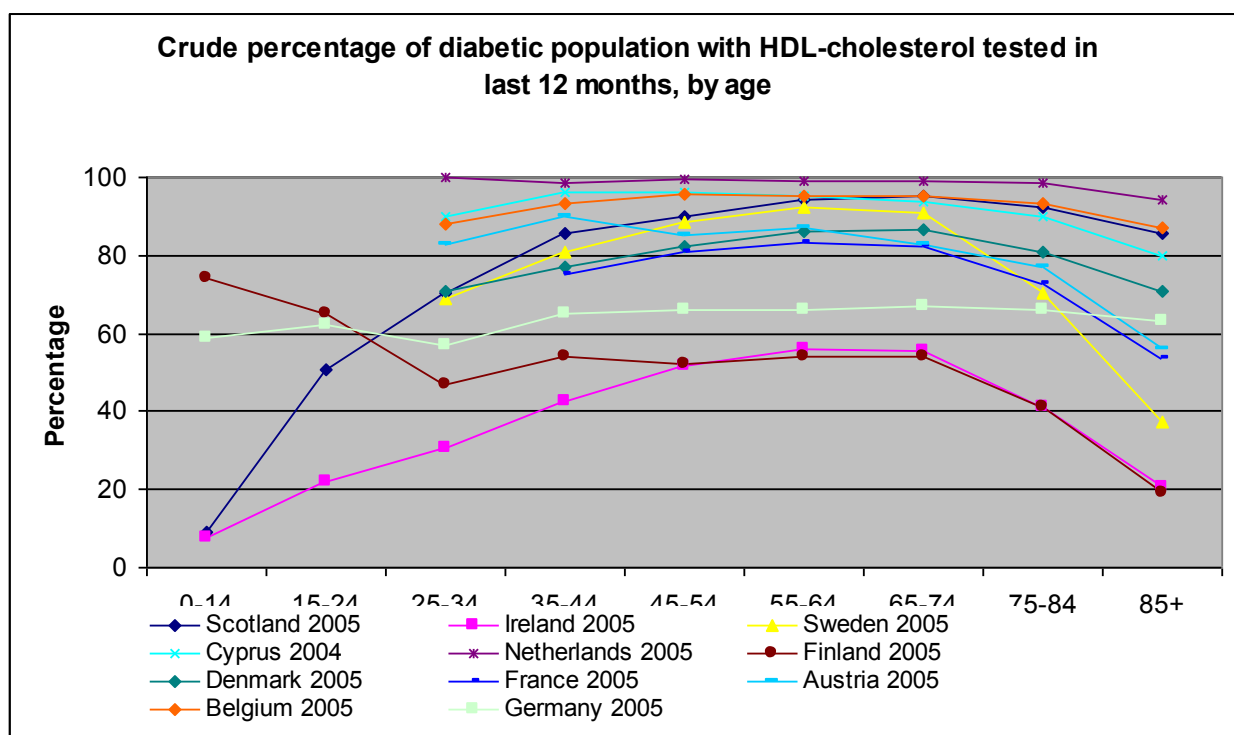
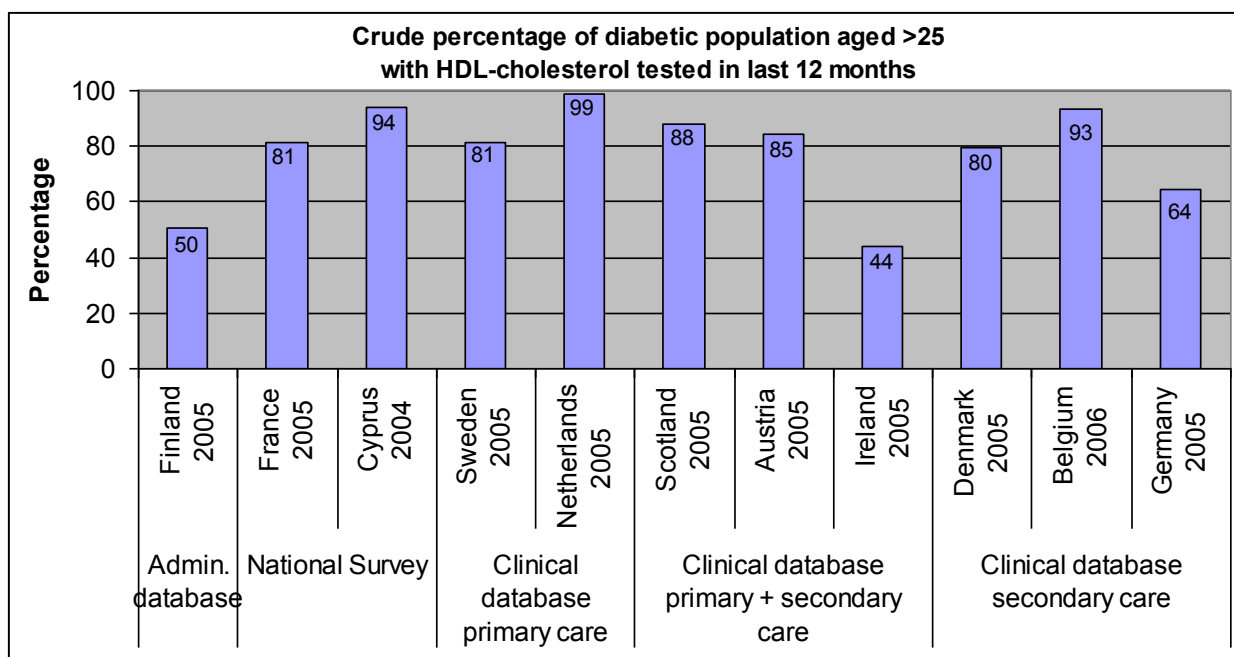
Countries able to provide total but no age band data

- Spain: data from 2004
 - % of diabetes population with HDL-cholesterol tested in last 12 months: 83% (age 15-80+)
- Romania: data from 2005
 - % of diabetes population with HDL-cholesterol tested in last 12 months: 44% (age unknown and 56% missing data)
- Italy: data from 2004
 - % of diabetes population with HDL-cholesterol tested in last 12 months: 65% (all ages)

Discussion

HDL cholesterol is another risk factor for macrovascular disease. The higher the value is the lower the risk. Most guidelines advice to measure this value at least once a year.

The percentages vary from 44 to 99. In children and age above 65 there are lower percentages measured.



Indicator: % of those tested with HDL-cholesterol < 1,0 mmol/l for men and < 1,25 mmol/l for women

Definition:

Percentage of diabetic population with their HDL-cholesterol tested in last 12 months and HDL cholesterol below 1,0 for men and 1,25 mmol/l for women.

Data availability

Countries not able to provide data

- England, Greece, Italy, Luxembourg, Poland, Portugal, Romania, Spain

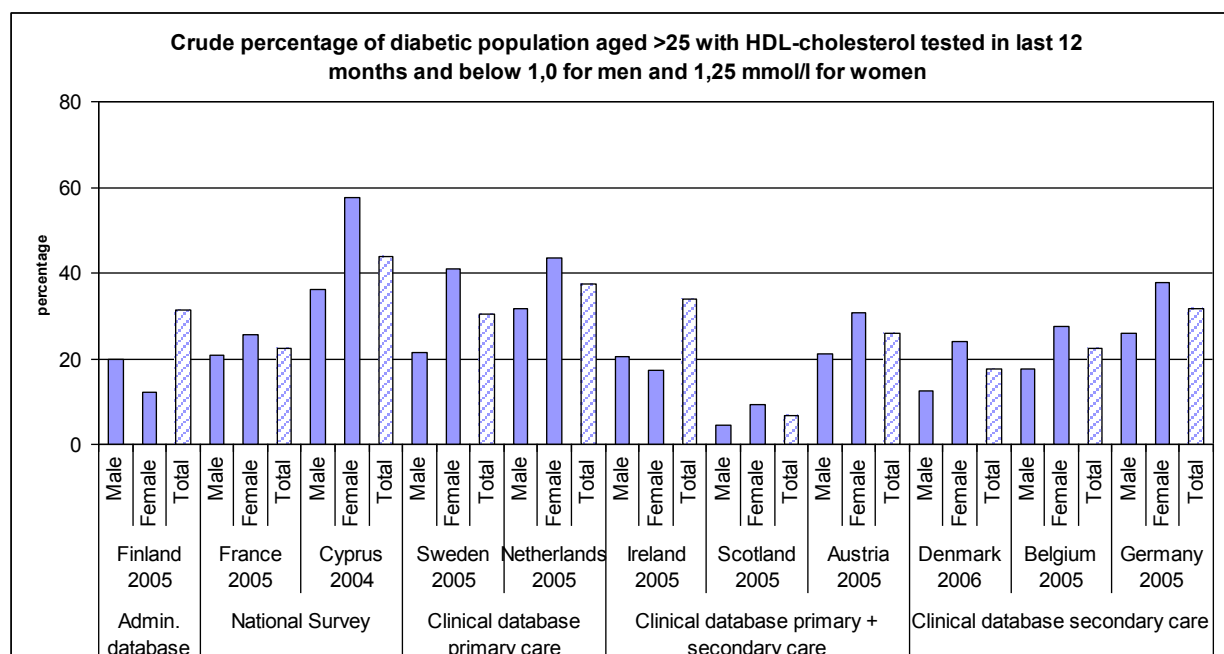
Countries not included because data not from 2005 +/- 1 year

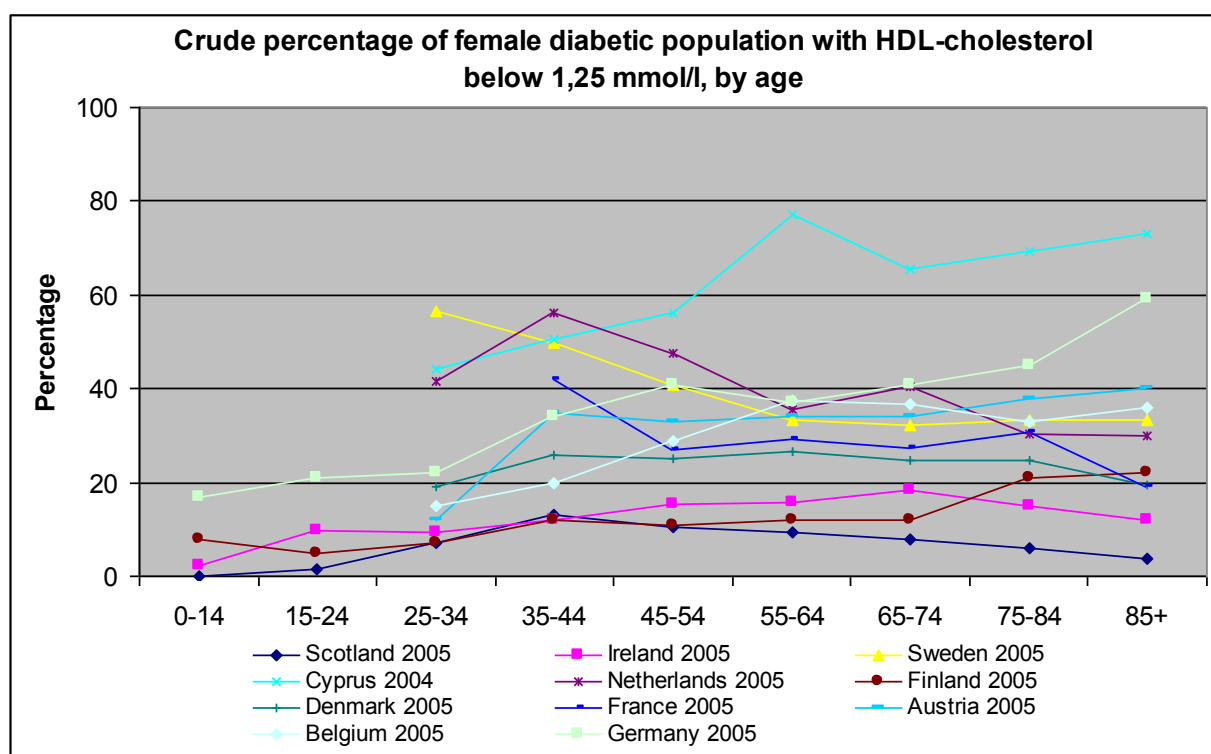
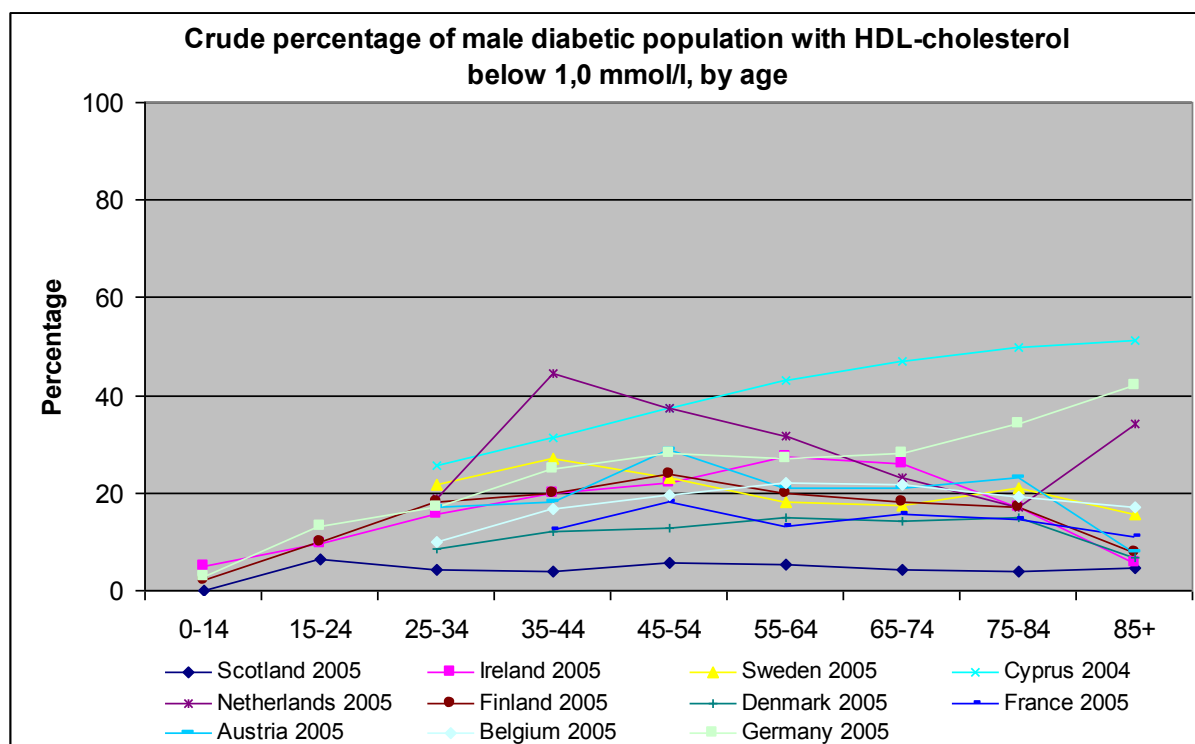
- Turkey: data from 2002 (age 20-82 yr)
 - % of diabetes male population with HDL-cholesterol below 1,0mmol/l: 34%
 - % of diabetes female population with HDL-cholesterol below 1,25mmol/l: 56%

Discussion

Risk for macrovascular disease is increased when HDL-Cholesterol is below 1.0 for men and 1.25 mmol/l for women.

The percentage varies from 6 to 42. In men the percentage is lower then in women. The influence of age is not consistent amongst countries.





Indicator: % of diabetes population with triglycerides tested in last 12 months**Definition:**

Percentage of diabetic population that had their triglycerides tested in the last 12 months.

Data availability

Countries not able to provide data

- England, Greece, Luxembourg, Poland, Portugal, Turkey

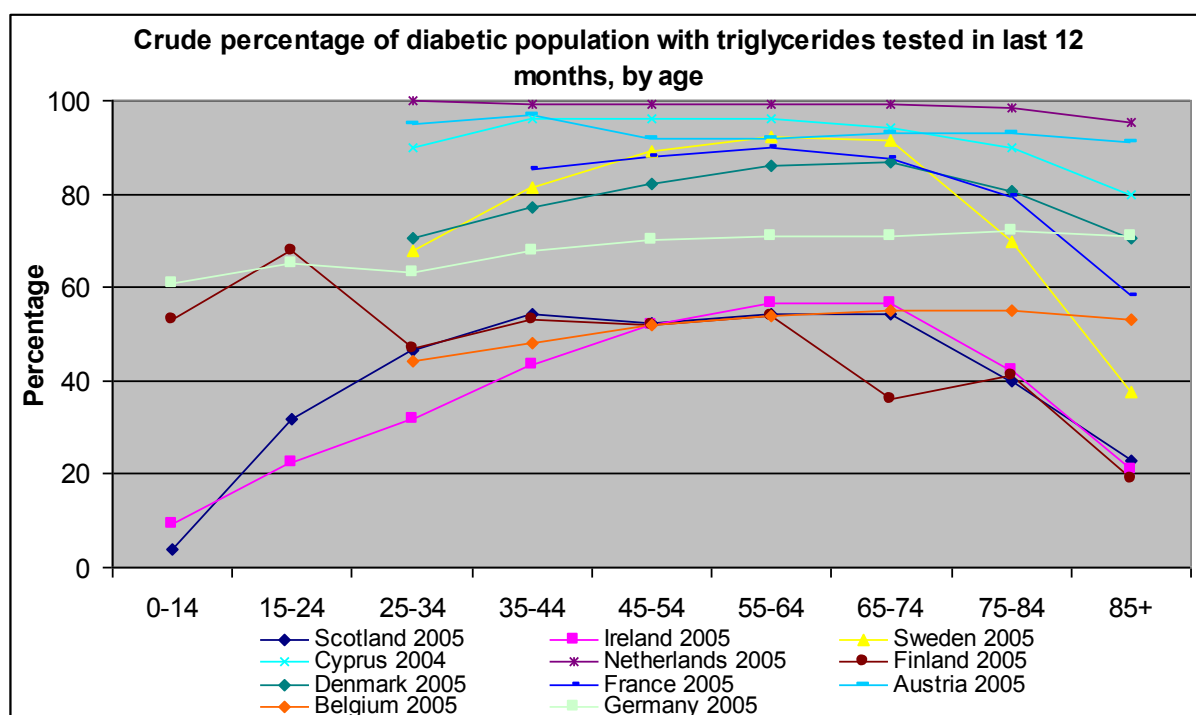
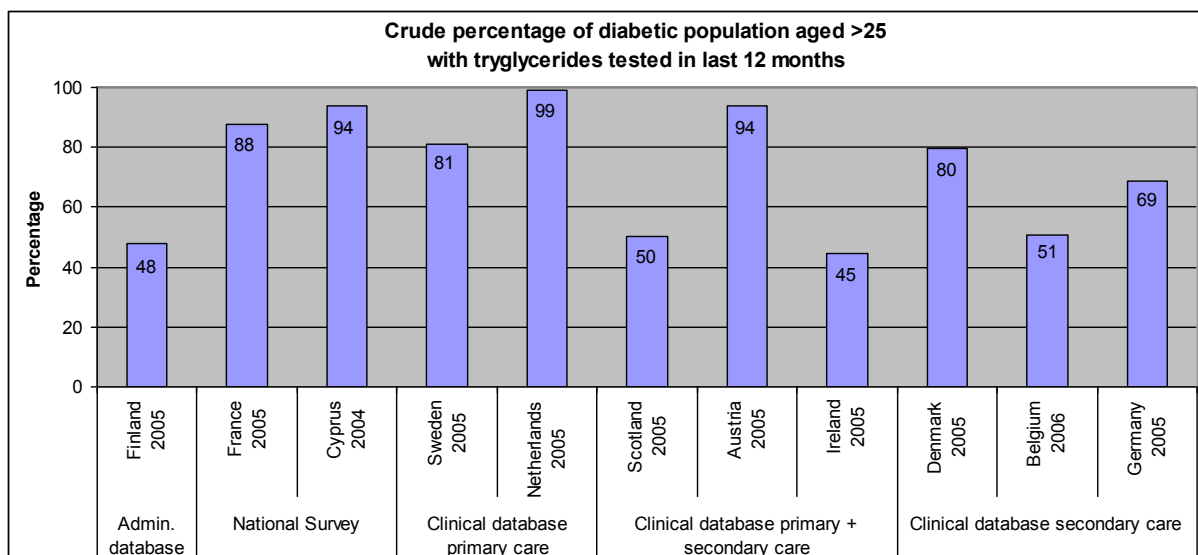
Countries able to provide total but no age band data

- Spain: data from 2005
 - % of diabetes population with triglycerides tested in last 12 months 83% (age 15-80+)
- Romania: data from 2005
 - % of diabetes population with triglycerides tested in last 12 months 20% (age unknown and 81% missing data)
- Italy: data from 2004
 - % of diabetes population with triglycerides tested in last 12 months 70% (all ages)

Discussion

After a long discussion if triglyceride level is an independent risk factor for macrovascular disease in diabetes most guidelines acknowledged this risk factor. It should be measured at least once a year in most guidelines.

The percentage measured varies from 45 to 99. In children and above 65 years the percentage measured is lower compared to the other age bands.



Indicator: % of those tested with triglycerides >2,3 mmol/l**Definition:**

Percentage of diabetic population with their triglycerides tested in last 12 months with triglycerides above 2,3 mmol/l.

Data availability

Countries not able to provide data

- England, Greece, Luxembourg, Poland, Portugal, Romania, Spain

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2003
 - % of those tested with triglycerides >2,3 mmol/l: 28% (ages 20-86 yr)

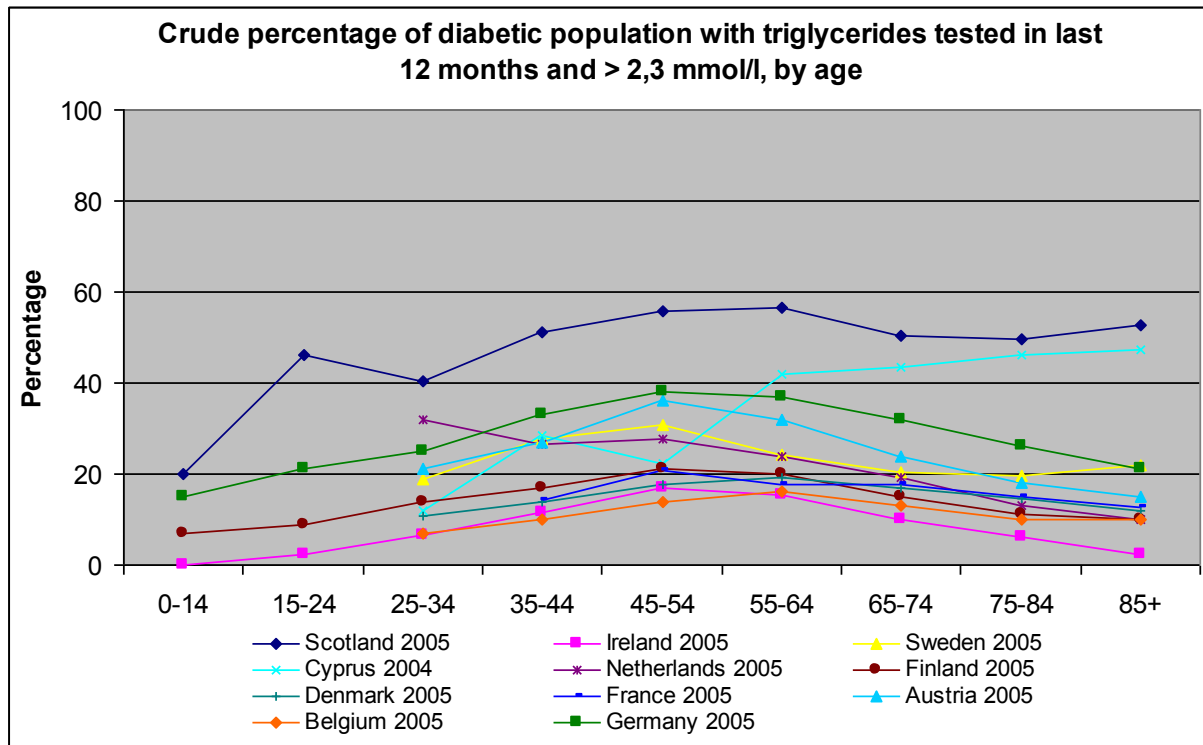
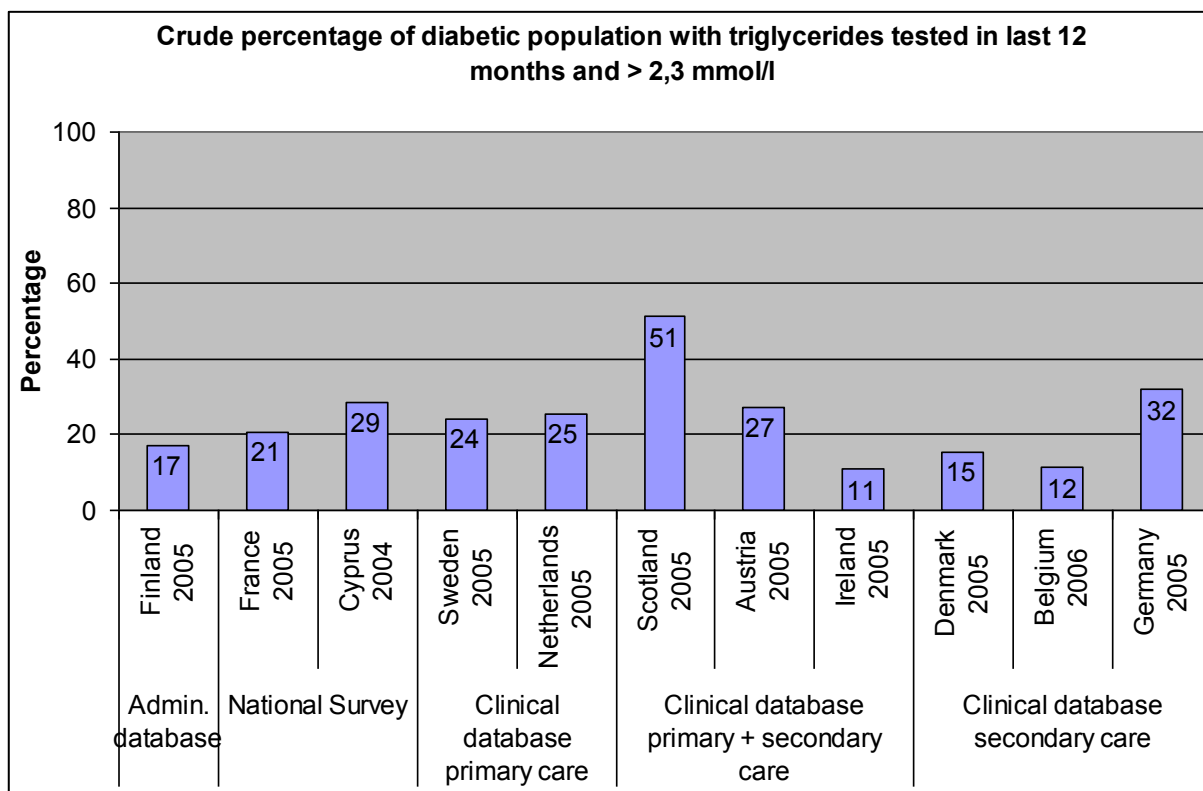
Countries able to provide total but no age band data

- Italy: data from 2004
 - % of those tested with triglycerides >2,3 mmol/l: 18% (all ages)

Discussion

A level below 2.3 mmol/l is advised in most guidelines as a treatment target, so the percentage above this concentration should be as low as possible.

The percentage of this indicator varied between 11 and 51. There is no clear influence of age but there seems to be a maximum at the age of 45 to 64 years.



Microalbuminuria in diabetic population

Indicator: % with microalbuminuria (and % with proteinuria if persistent proteinuria exists) tested in the last 12 months

Definition:

Percentage of total diabetic population that had microalbuminuria tested (or proteinuria tested if persistent proteinuria exists) in the last 12 months.

Data availability

Countries not able to provide data

- Cyprus, Greece, Luxembourg, Poland, Portugal, Sweden, Romania, Turkey

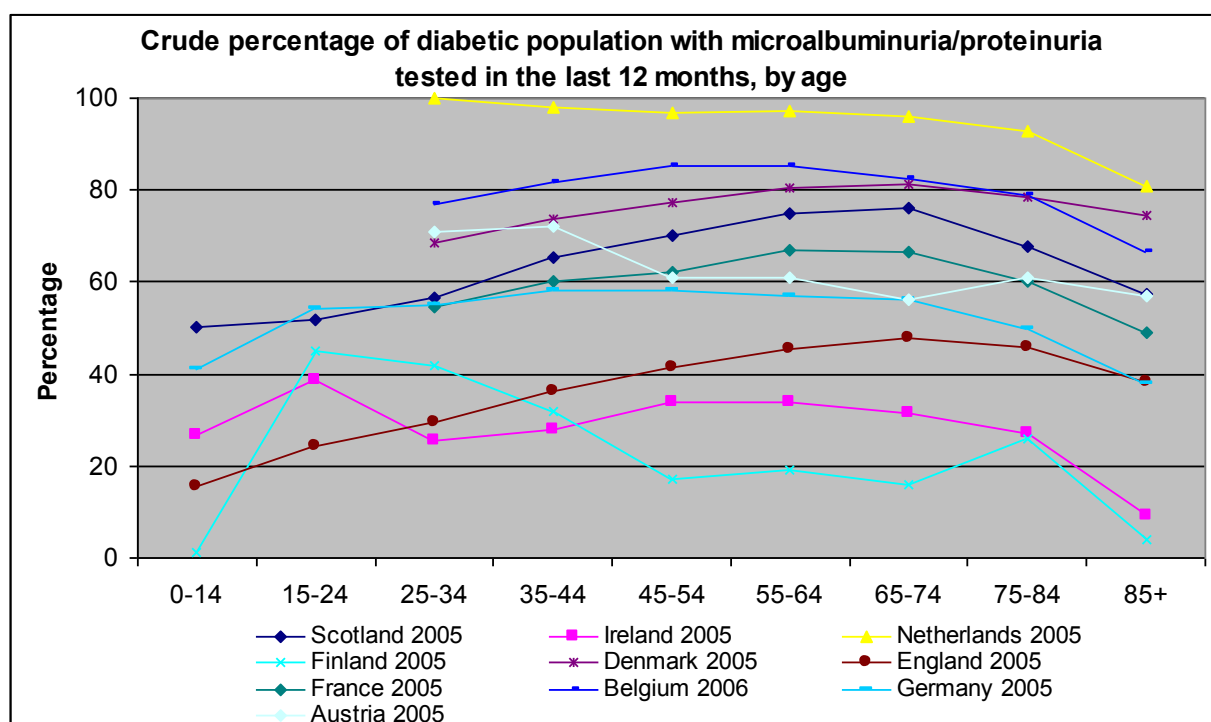
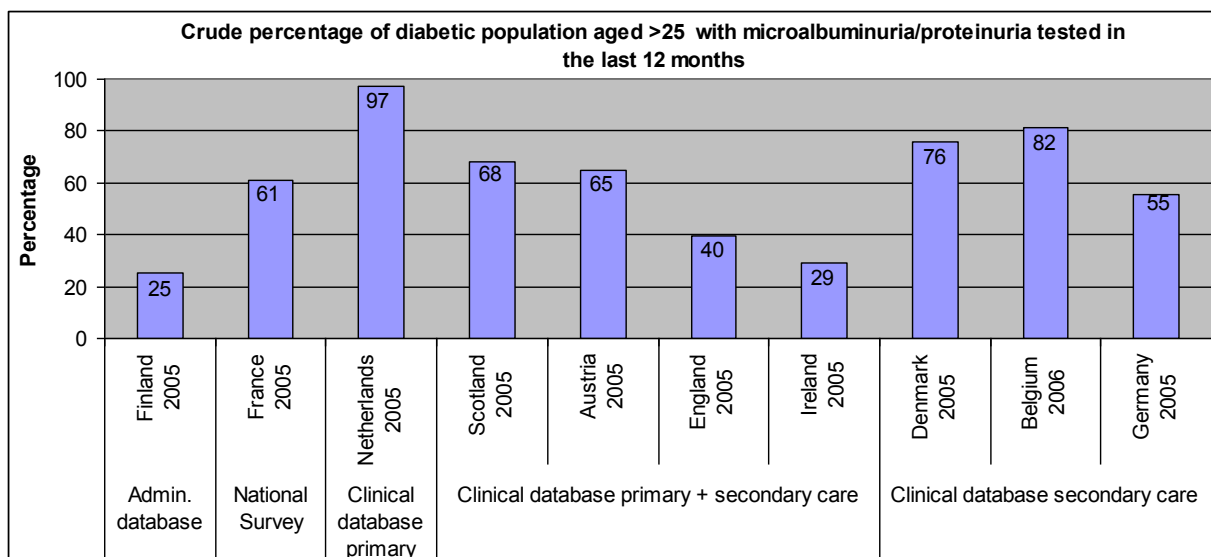
Countries able to provide total but no age band data

- Spain: data from 2005
 - % with microalbuminuria (and % with proteinuria if persistent proteinuria exists) tested in the last 12 months: 52% (age 15-85+)
- Italy: data from 2004
 - % with microalbuminuria (and % with proteinuria if persistent proteinuria exists) tested in the last 12 months: 48% (all ages)

Discussion

Microalbuminurea, that is progressive to proteinurea, is a risk factor for micro- and macrovascular disease. In most guidelines this should be measured each year. So the percentage should ideally be 100.

The percentage varies in the different databases from 25 to 97. In children and above 75 the percentages are lower.



Indicator: % of those tested with abnormal albuminuria or proteinuria in the last 12 months

Definition:

Percentage of diabetic population with microalbuminuria/proteinuria tested in last 12 months with a microalbuminuria above the threshold of normal (locally defined) or a proteinuria.

Data availability

Countries not able to provide data

- Cyprus, Denmark, Greece, Luxembourg, Poland, Portugal, Romania, Sweden

Countries able to provide total but no age band data

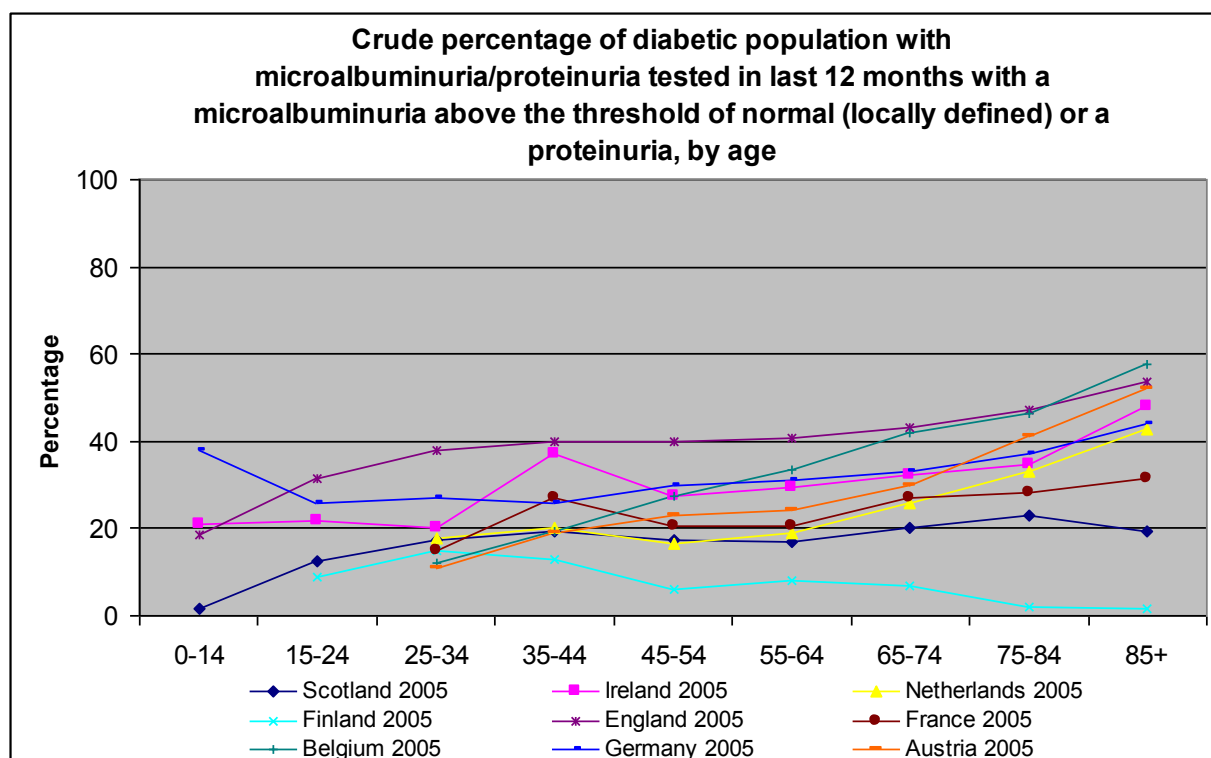
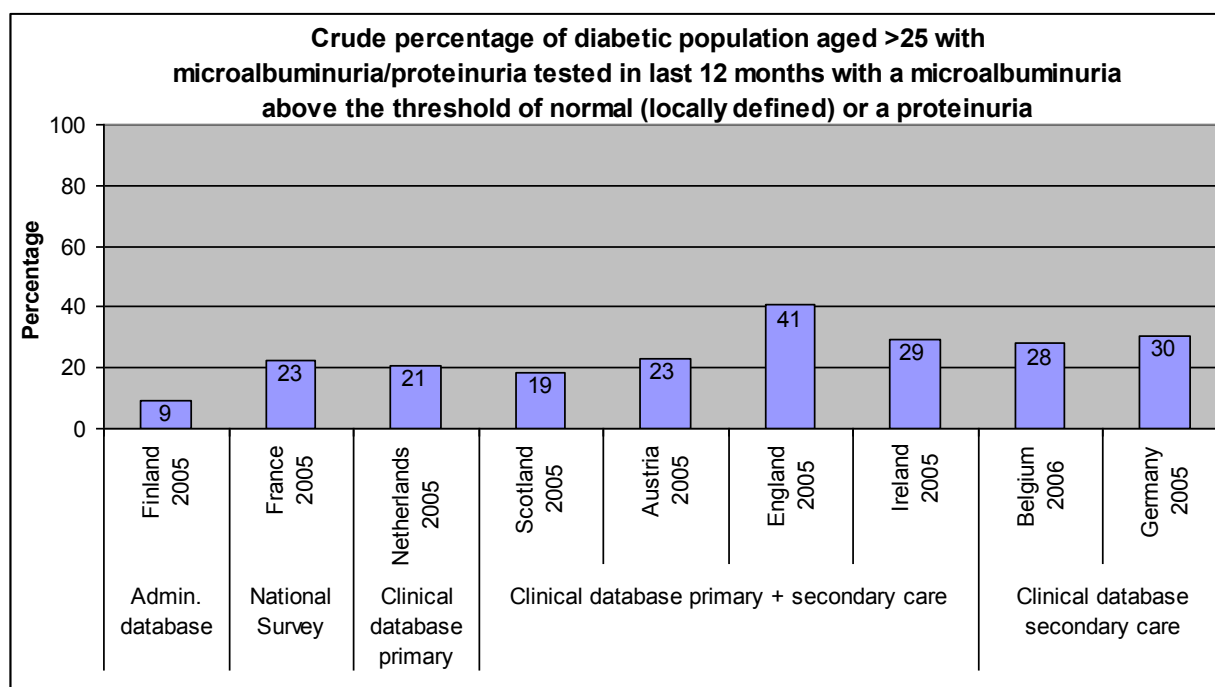
- Spain: data from 2005
 - % of those tested with abnormal albuminuria or proteinuria in the last 12 months: 23% (age 15-80+)
- Italy: data from 2004
 - % of those tested with abnormal albuminuria or proteinuria in the last 12 months: 24% (all ages)

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2003
 - % of those tested with abnormal albuminuria or proteinuria in the last 12 months: 54% (ages 20-86 yr)

Discussion

The normal value of microalbuminurea and proteinurea are different in different laboratories. So we asked if the concentration was above the threshold of normal for the local laboratory. The percentage of abnormal protein concentrations in the urine varied from 9 to 41. The percentage increases in the age groups above 65.



Indicators part 3 – Risk factors – physical measures

- Blood pressure tested
- Blood pressure >140/90
- BMI in diabetes population tested
- BMI in diabetes population => 25
- BMI in diabetes population => 30
- Smoking in diabetes population

Blood pressure in diabetic population

Indicator: % with blood pressure measured in last 12 months

Definition:

Percentage of diabetic population that had their blood pressure measured in the last 12 months.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Turkey, France

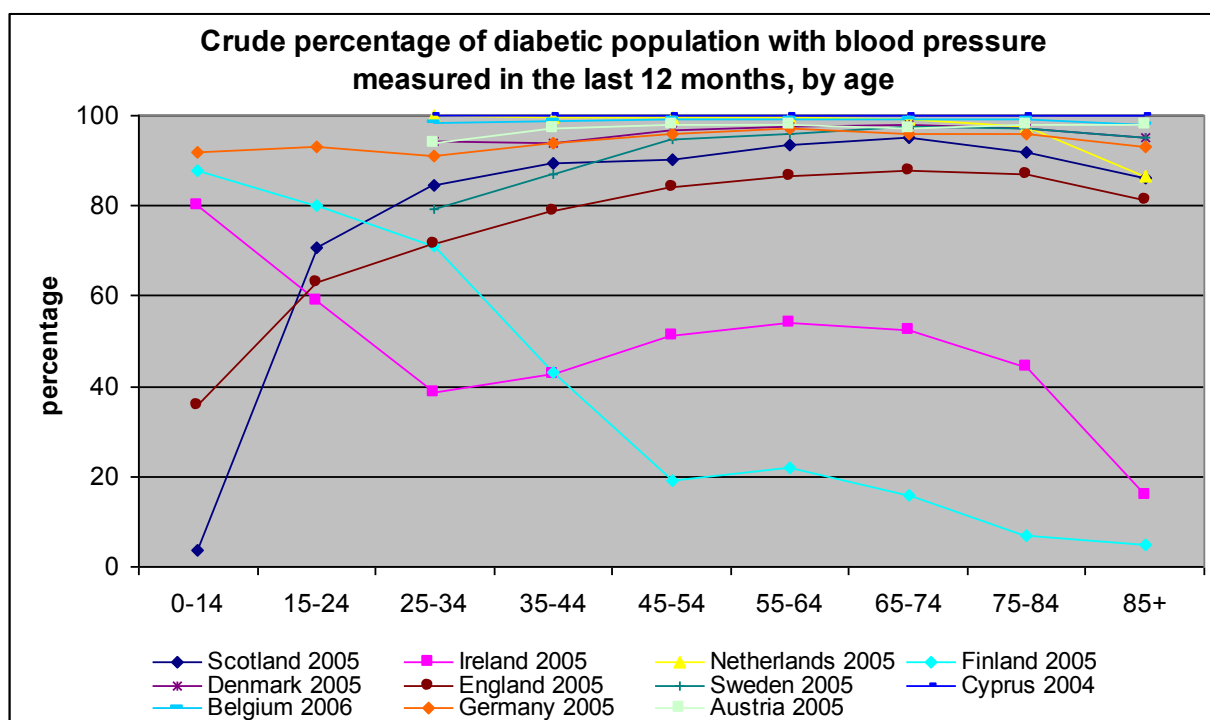
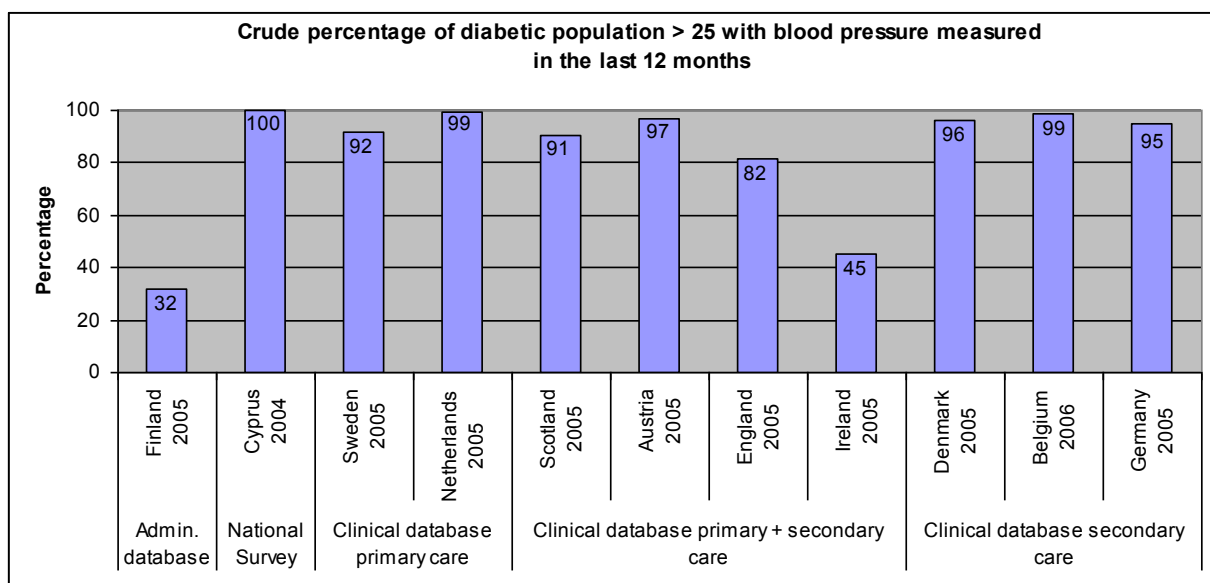
Countries able to provide total but no age band data

- Spain
 - % with blood pressure measured in last 12 months: 92% (age 15-80+)
- Italy
 - % with blood pressure measured in last 12 months: 77% (all ages)
- Romania
 - % with blood pressure measured in last 12 months: 67% (unknown age range, 34% missing data)

Discussion

As a risk factor for macrovascular disease, blood pressure has to be measured at least once a year and more often if elevated and treated. There is general consensus amongst guidelines for blood pressure.

The percentage varies from 32 to 100. There is no clear effect of age.



Indicator: % of those tested in last 12 months with blood pressure > 140/90 mmHg**Definition:**

Percentage of diabetic population that had their blood pressure measured in the last 12 months and had a diastolic blood pressure above 90 and/or a systolic blood pressure above 140 mm Hg.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Romania

Countries able to provide total but no age band data

- Spain
 - % of those tested in last 12 months with blood pressure > 140/90 mmHg: 52% (age 15-80+)
- Italy
 - % of those tested in last 12 months with blood pressure > 140/90 mmHg: 37% (all ages)

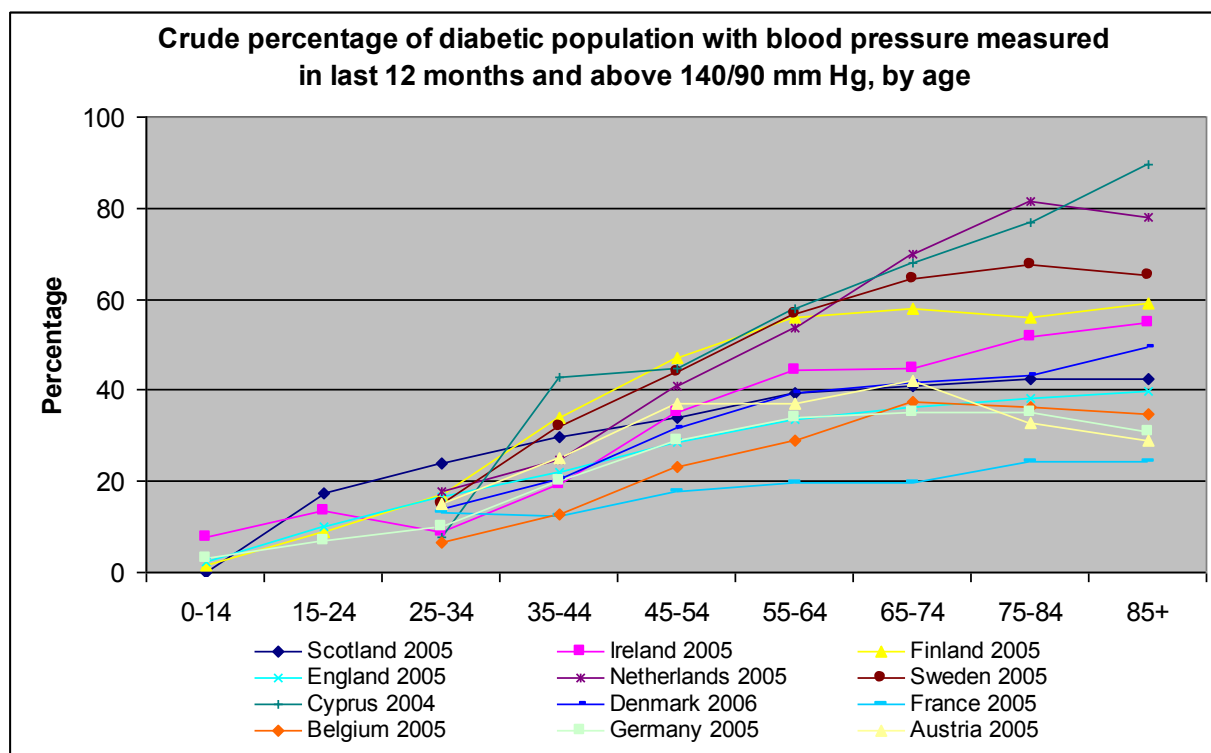
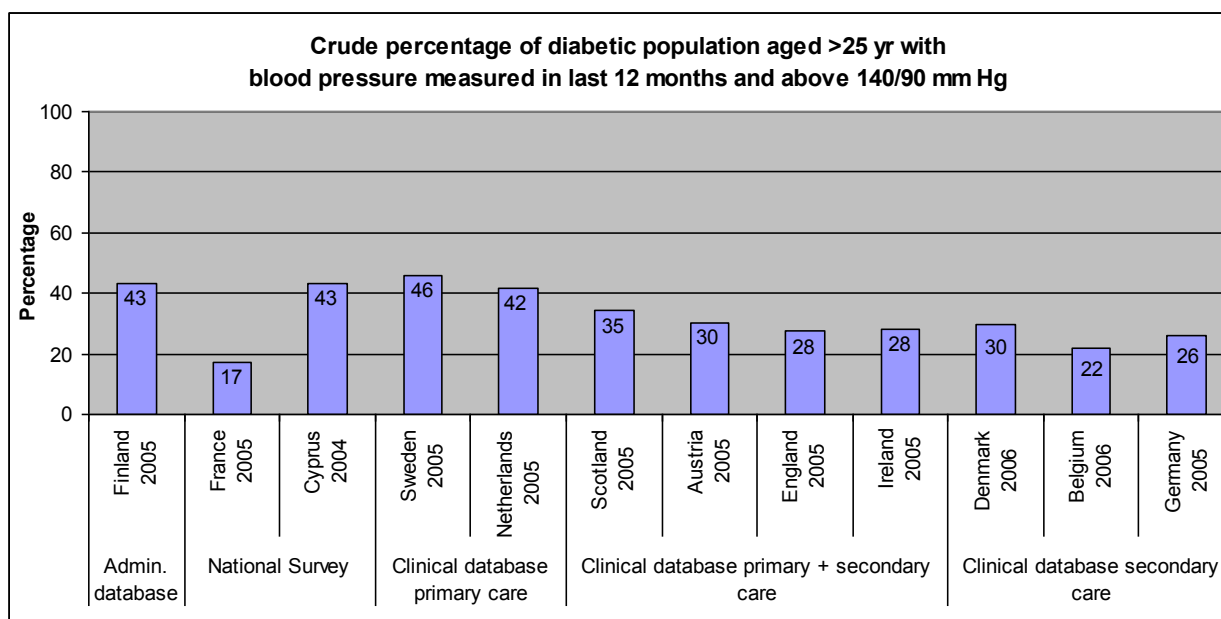
Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of those tested in last 12 months with blood pressure > 140/90 mmHg: 50% (ages 20-82)

Discussion

The upper limit of an acceptable blood pressure is different in different guidelines. The number decreases over the years. The acceptable limit of 140/90 mm Hg is the highest in use at the moment. To avoid the discussion between different users of guidelines we have chosen for this threshold.

The percentage varies from 17 to 46. There is a clear age band effect: the older the population the higher the percentage.



BMI in diabetic population

Indicator: BMI tested in diabetic population

Definition:

Percentage of diabetic population that had their BMI measured or had both weight and height available in last 12 months.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Turkey, France

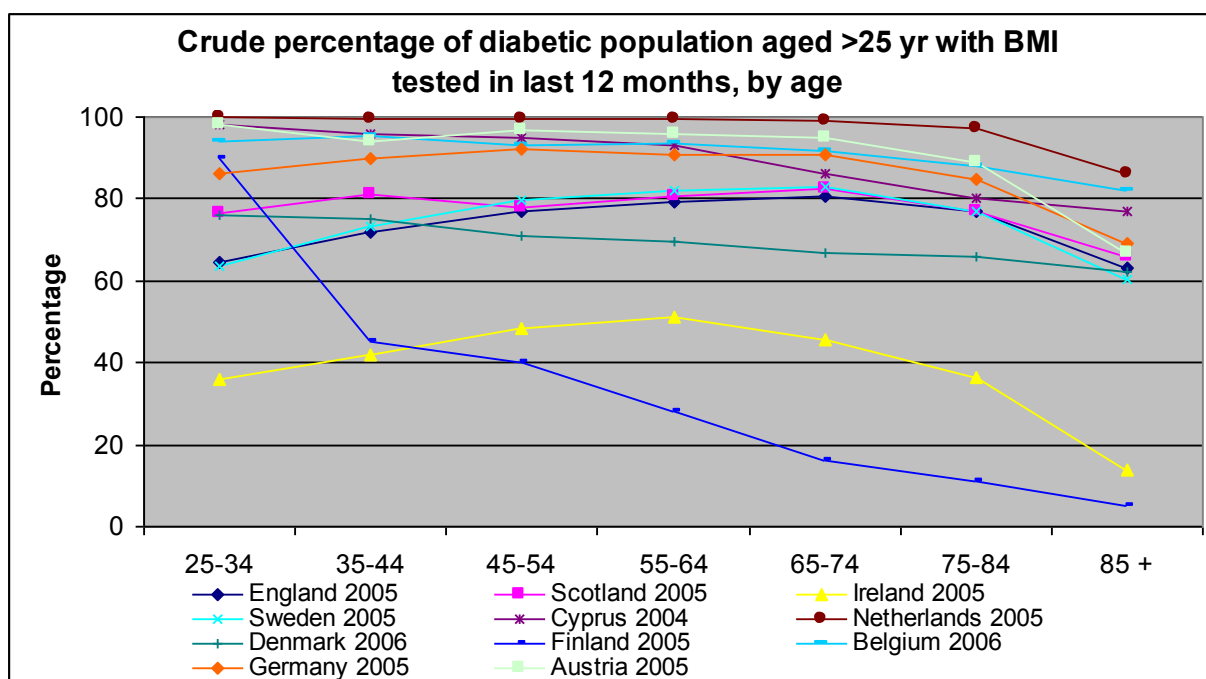
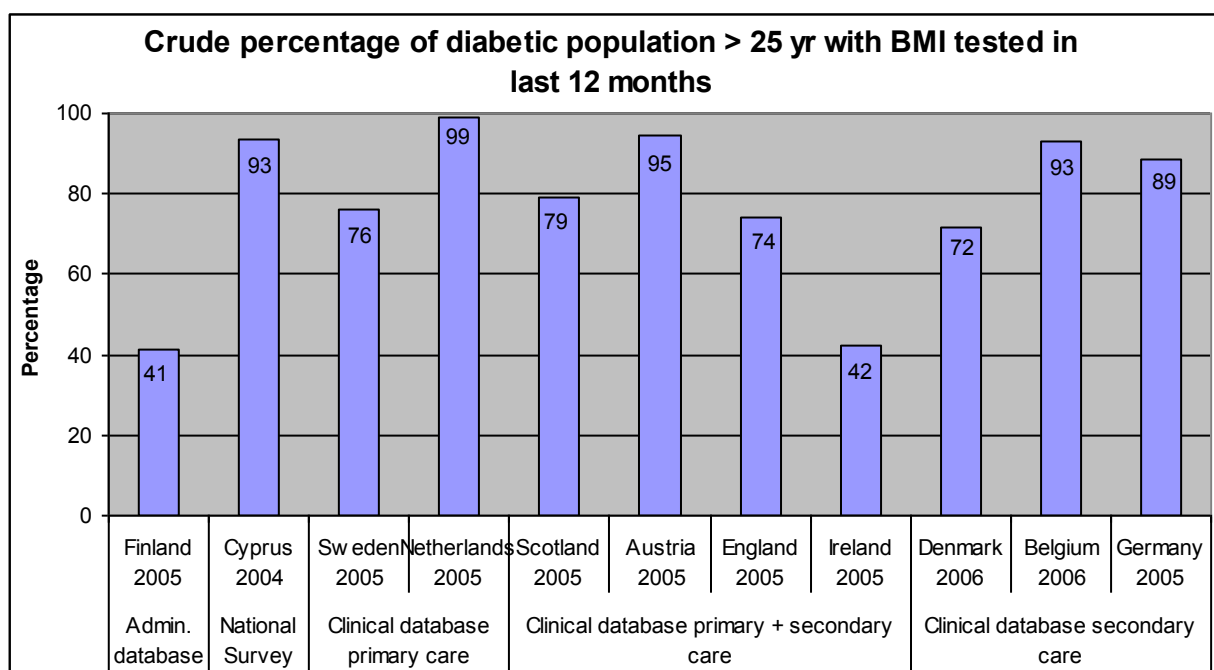
Countries able to provide total but not age band data

- Italy: data from 2004
 - % of diabetes population tested for BMI: 81% (all ages)
- Spain: data from 2005
 - % of diabetes population tested for BMI: 50% (15-80+)
- Romania: data from 2005
 - % of diabetes population tested for BMI: 94% (unknown age range)

Discussion

BMI is a risk factor for macrovascular disease as well as a modifier for the effectiveness of blood glucose treatment. All the guidelines have included BMI as a measurement that should be performed at least once a year.

The percentage varies from 41 to 99. In the older age ranges it tends to be lower.



Indicator: % of those measured with BMI \geq 25 kg/m²**Definition:**

Percentage of diabetic population that had their BMI measured or had both weight and height available, and had a value above or equal to 25 kg/m².

Indicator: % of those measured with BMI \geq 30 kg/m²**Definition:**

Percentage of diabetic population that had their BMI measured or had both weight and height available, and had a value above or equal to 30 kg/m².

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of those measured with BMI 25-30 kg/m²: 37% (20-82)
 - % of those measured with BMI \geq 30 kg/m²: 32% (20-82)

Countries able to provide total but not age band data

- Italy: data from 2004
 - % of those measured with BMI 25-30 kg/m²: 37% (all ages)
 - % of those measured with BMI \geq 30 kg/m²: 38% (all ages)

Countries not included in the analysis because of incomplete data

Romania and Spain only provided part of the data and could therefore not be included in the analysis.

- Romania
 - % of those measured with BMI \geq 25 kg/m²: 68% (unknown age range)
- Spain
 - % of those measured with BMI \geq 30 kg/m²: 75% (60-66 yr !)

Discussion

BMI is a risk factor for macrovascular disease as well as a modifier for the effectiveness of blood glucose treatment. All the guidelines have included BMI as a measurement that should be performed at least once a year.

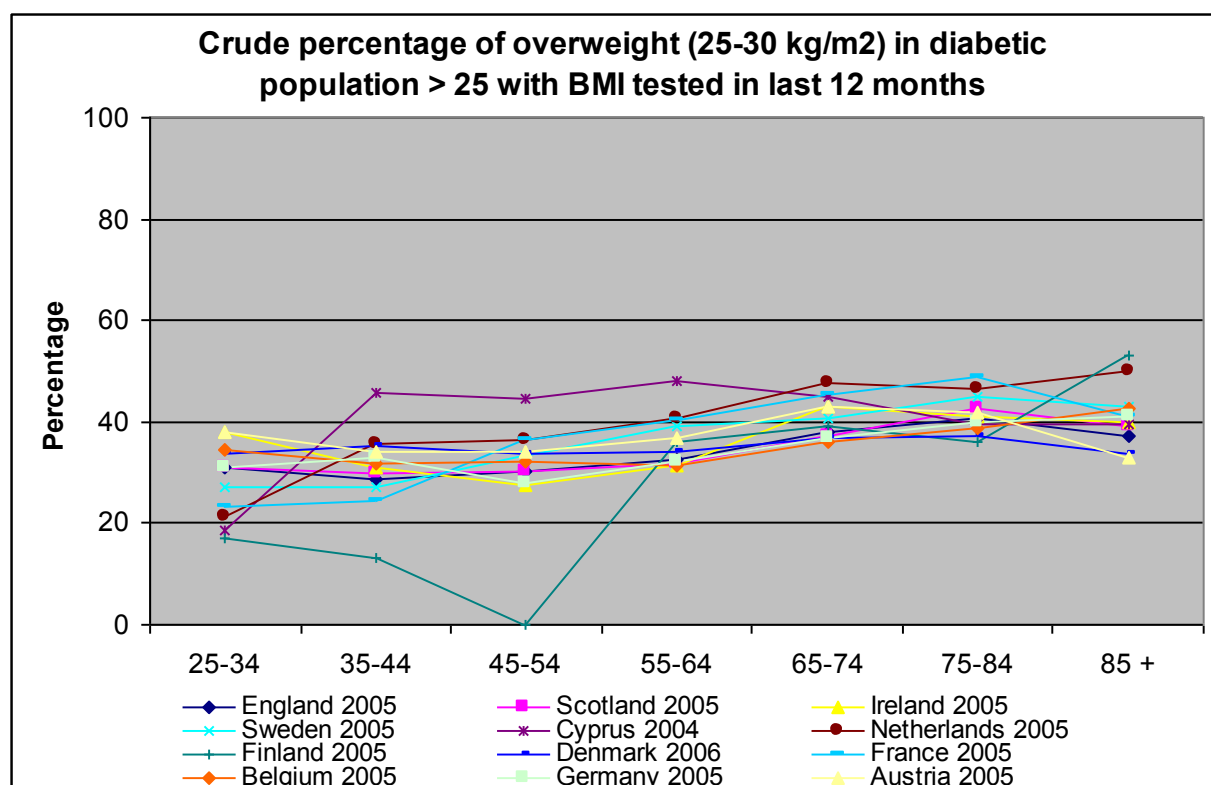
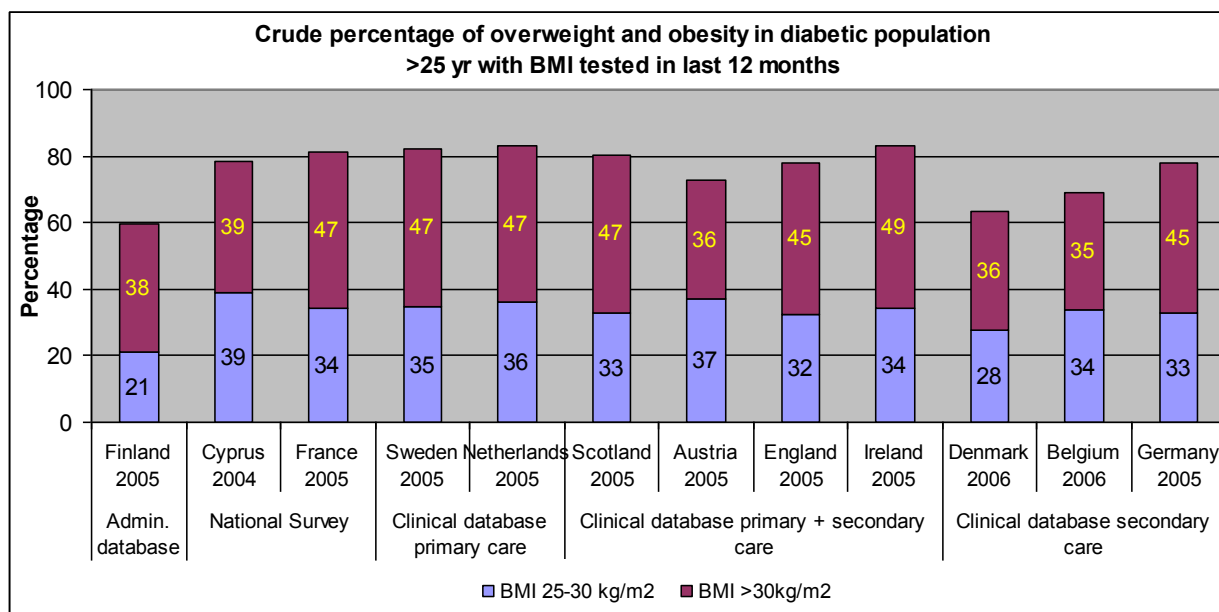
BMI has 4 categories:

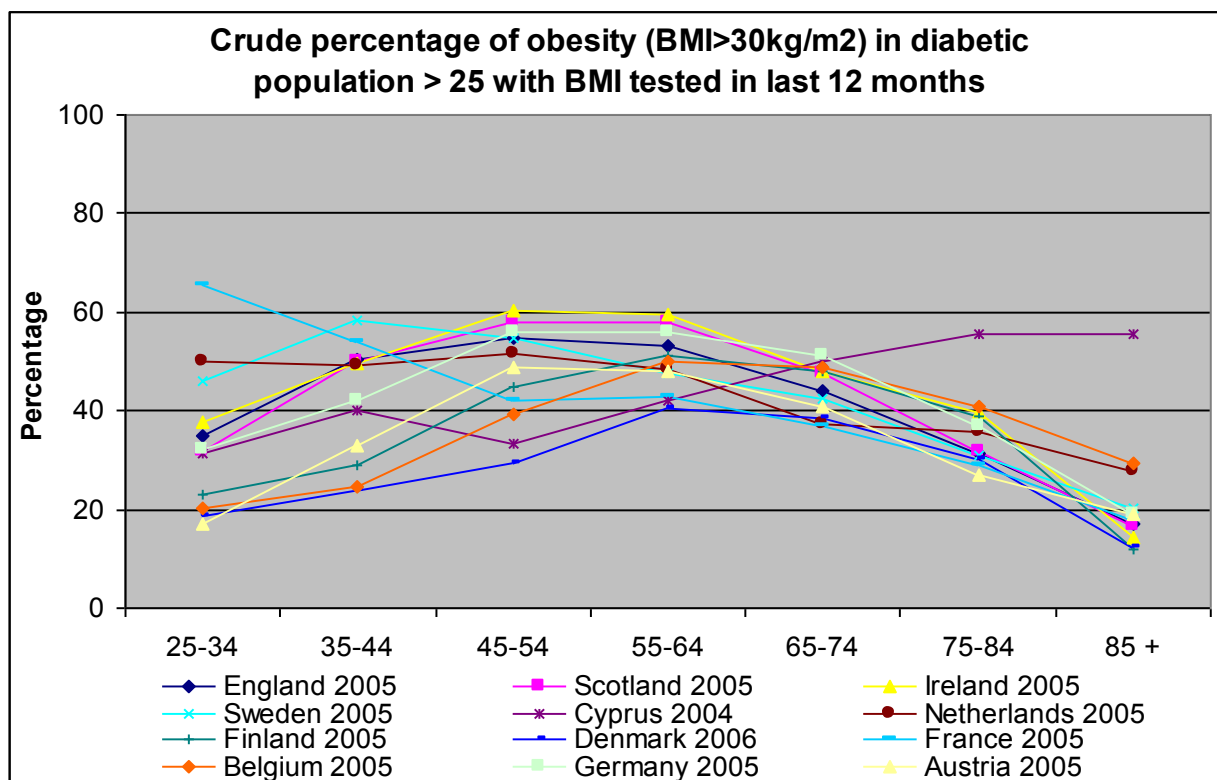
- below 20: underweight
- 20-25: optimal weight
- 25 to 30: overweight
- above 30: obesity

Ideally the population, and also the diabetes population, should be between 20 and 25.

As can be seen in the bar graphs this is not the case since the majority of the population is above 25.

The percentage of BMI above 25 varies from 59 to 83. The percentage above 30 is most of the time a little higher than the percentage between 25 and 30. The percentage between 20 and 25 does not vary with age, but the percentage above 30 decreases with age.





Smokers in diabetic population

Indicator: % current smokers in diabetic population

Definition:

Percentage of current smokers in diabetic population. Smoking is defined as any smoking.

Data availability

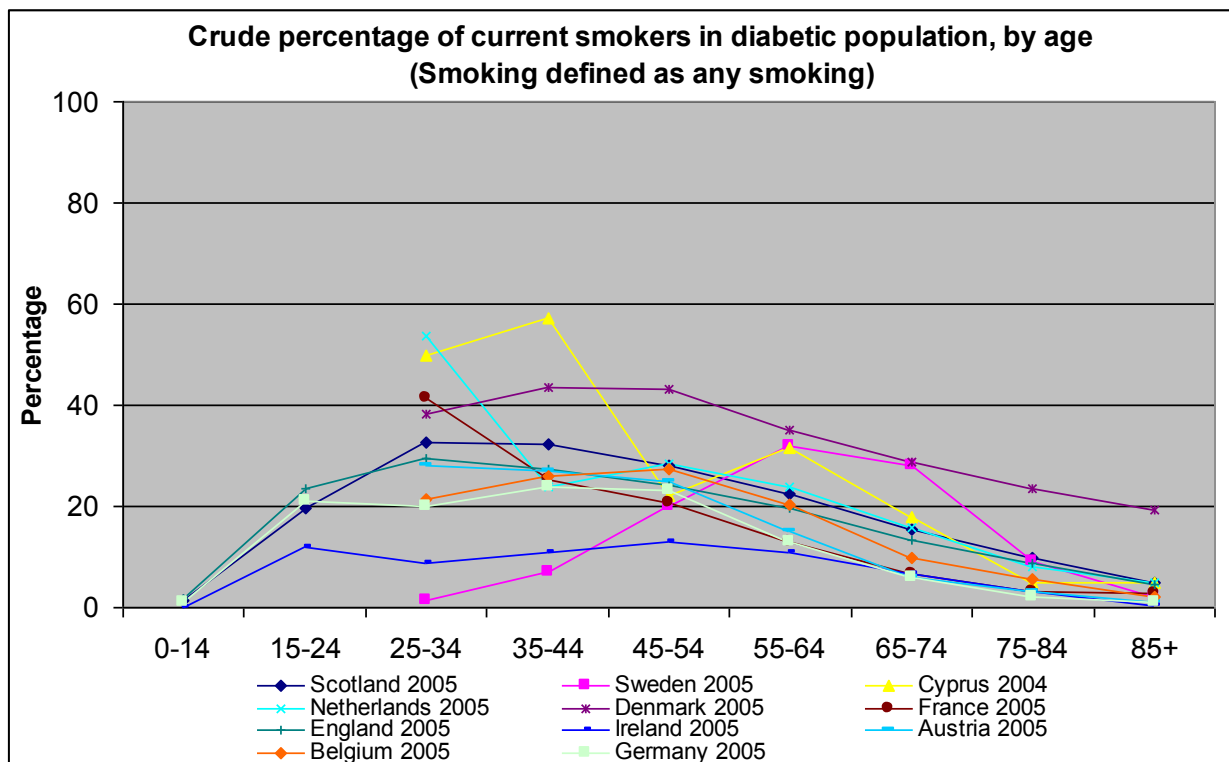
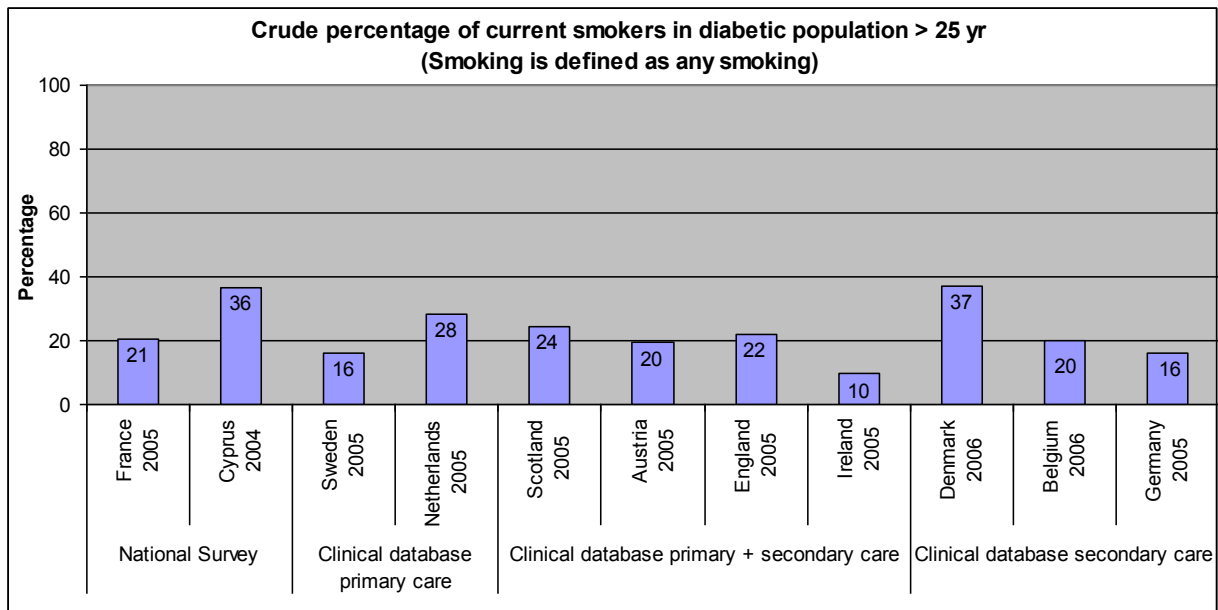
Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Romania
- Countries not included because data not from 2005 +/- 1 year
- Turkey: data from 2002
 - % current smokers in diabetic population: 19% (ages 2-82 yr)
- Countries able to provide total but no age band data
- Spain: data from 2004
 - % current smokers in diabetic population: 12% (age 15-80+)
- Italy: data from 2004
 - % current smokers in diabetic population: 18% (all ages)
- Finland: data from 2005
 - % current smokers in diabetic population: 18 (age 1-94 yr)

Discussion

Smoking is a risk factor for macrovascular disease. All guidelines advice people with diabetes to stop smoking.

The percentage of smokers amongst people with diabetes varies from 10 to 37. In the very young and older age bands the percentage is lower, having a maximum at the age of 25 to 44, where it accounts for a third of the population with diabetes. Important variations between countries are observed which may reflect the impact of various public health policies. Data gathering can be very difficult for this indicator, what might influence the reliability of the data.



Indicators part 4 – Complications

- Fundus tested
- Retinopathy
- Retinopathy and timely laser treatment
- Incidence of blindness
- Creatinine tested
- ESRF
- Incidence of dialysis and transplantation
- Prevalence of dialysis and transplantation
- Incidence of stroke
- Incidence of myocardial infarction
- Incidence of major amputation

Ophthalmologic complications

Indicator: % with fundus inspection in last 12 months

Definition:

Percentage of diabetic population that had their eye fundus inspected in last 12 months.

Data availability

Countries not able to provide data

- Greece, Luxembourg, Poland, Portugal, Turkey, Italy, Romania, Sweden, Cyprus

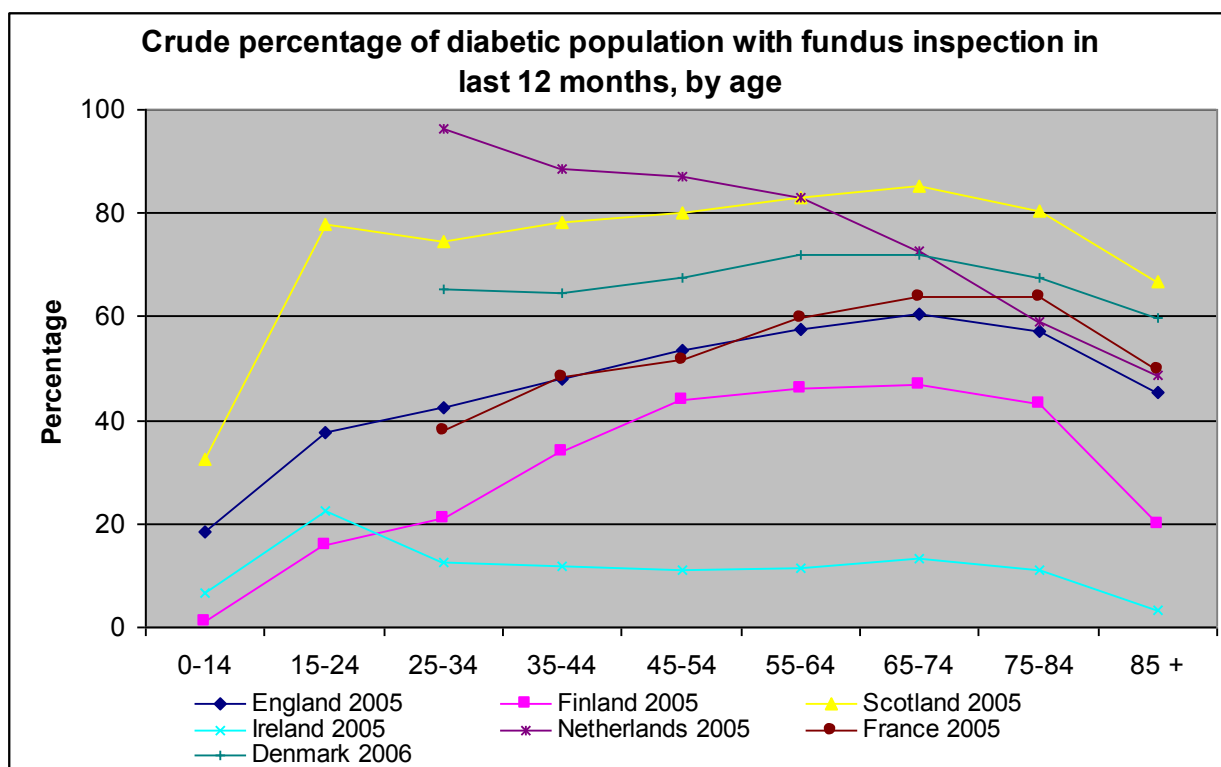
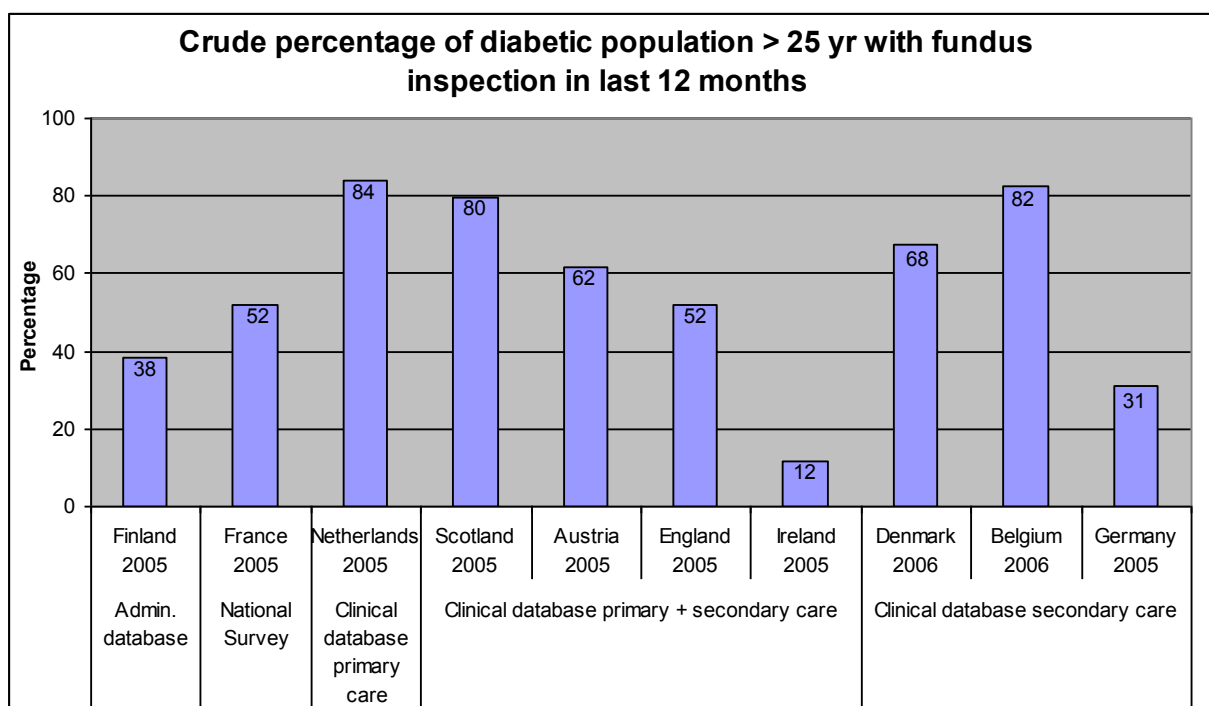
Countries able to provide total but not age band data

- Spain: data from 2004
 - % of diabetic population with fundus inspection: 20% (age 15-85 yr)

Discussion

Annual inspection of the eye fundus is advised in most guidelines. Some guidelines advice to inspect the fundus once every two years if the fundus is normal and there are no other risk factors for the development for retinopathy. Whenever symptoms of decreasing vision or vision defects develop the damage on the fundus is already considerable and treatment is often too late. So screening in a phase where there are no symptoms, is the only way to diagnose diabetic retinopathy in time.

The percentage varies widely from 12 to 84. It was lower in the young and above 85 years compared to the other age bands.



Indicator: % of those tested with proliferative retinopathy in last 12 months**Definition:**

Percentage of diabetic population that had their eye fundus inspected in the last 12 months and were diagnosed with a proliferative retinopathy.

Data availability

Countries not able to provide data

- Cyprus, Belgium, Denmark, England, Finland, France, Greece, Luxembourg, Netherlands, Poland, Portugal, Sweden

Countries able to provide total but not age band data

- Spain: data from 2004
 - % of diabetes population with fundus inspection and retinopathy: 17% (age 15-85+)
- Romania: data from 2005
 - % of diabetes population with fundus inspection and retinopathy: 24%

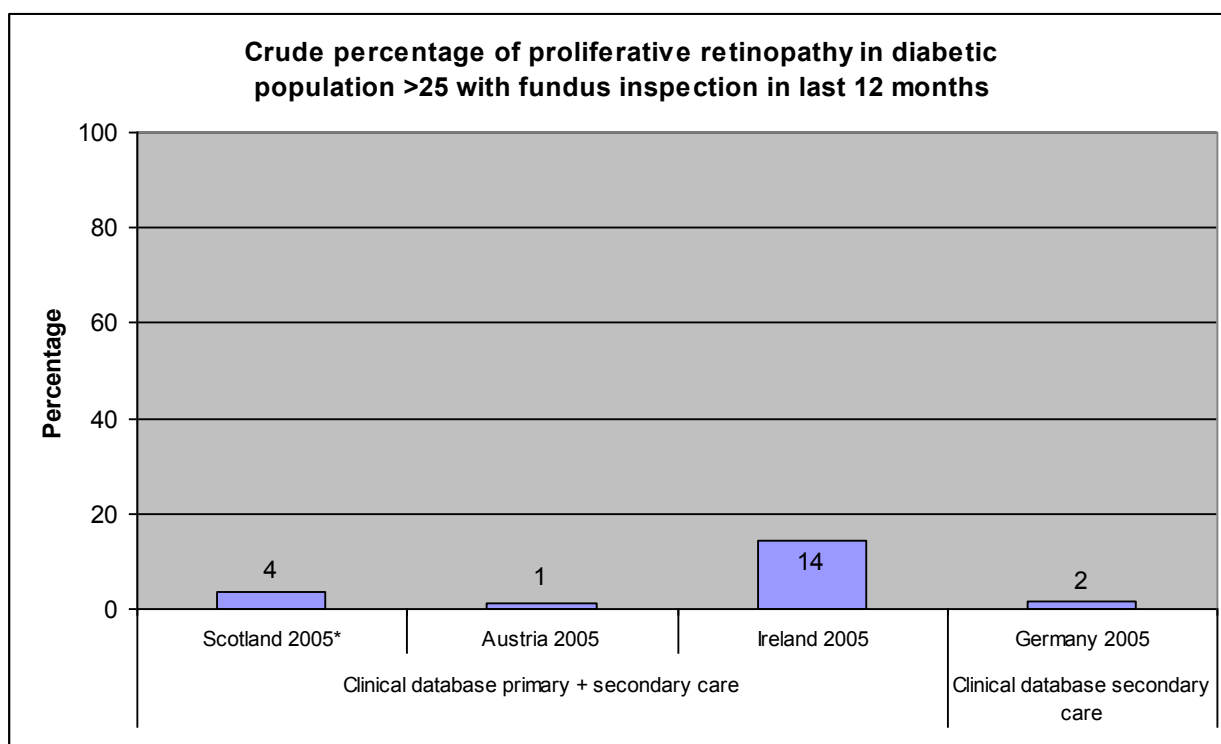
Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of diabetes population with fundus inspection and retinopathy: 7%
- Italy: data from 2002
 - % of diabetes population with fundus inspection and retinopathy: 12%

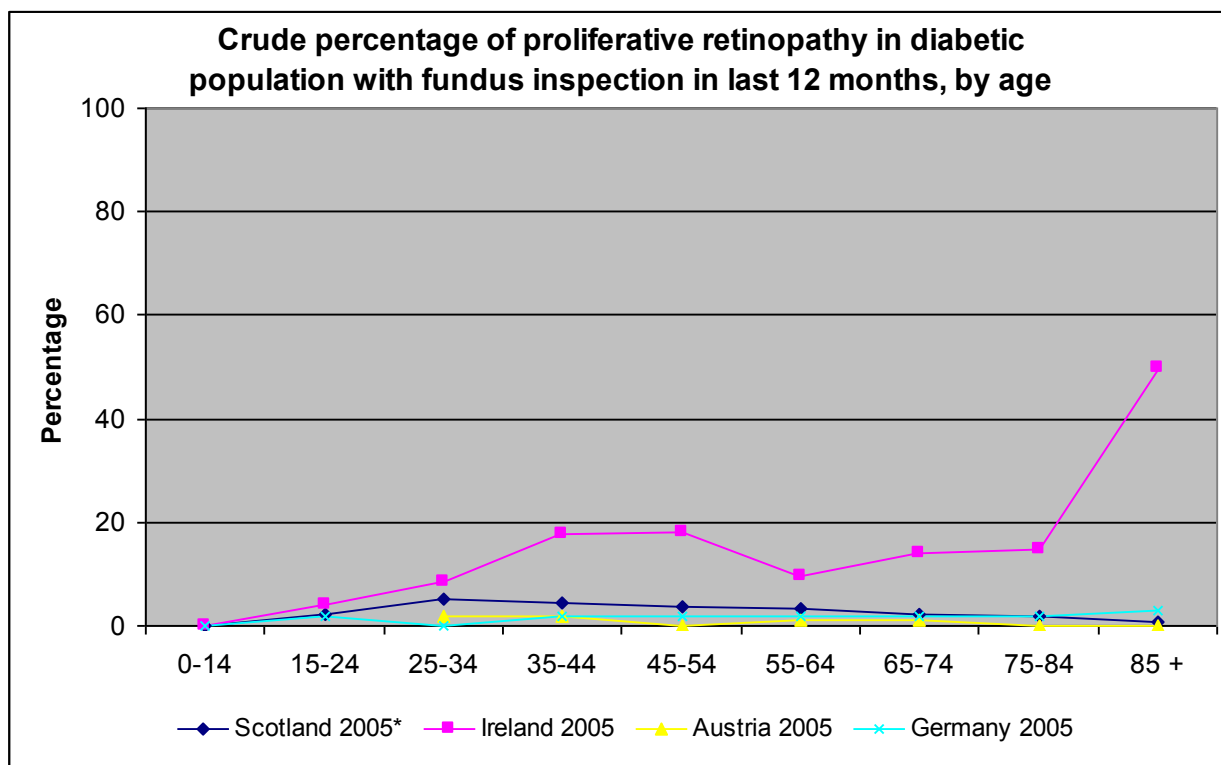
Discussion

The outcome indicator of proliferative retinopathy is an important indicator, because in all guidelines this diagnosis urges to laser treatment to prevent blindness. It is not available in most countries. Proliferative retinopathy is an important indicator because these eyes have to be treated with laser. So for planning reasons this figure is important.

The percentage in the 4 countries where it is available varies from 1 to 14. The number of countries is too low to make a statement for age bands.



*Several categories of retinopathy available in DARTS. Only specific diagnosis of Proliferative Retinopathy used for this Indicator



*Several categories of retinopathy available in DARTS. Only specific diagnosis of Proliferative Retinopathy used for this indicator.

Indicator: % of those inspected and diagnosed with proliferative retinopathy who received laser treatment < 3 months after diagnosis of proliferative retinopathy

Definition:

Percentage of diabetic population that had their eye fundus inspected in the last 12 months and were diagnosed with a proliferative retinopathy and had laser treatment within 3 months.

Data availability

Countries not able to provide data

- Austria, Belgium, Cyprus, Denmark, England, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Scotland, Sweden, Romania, Turkey

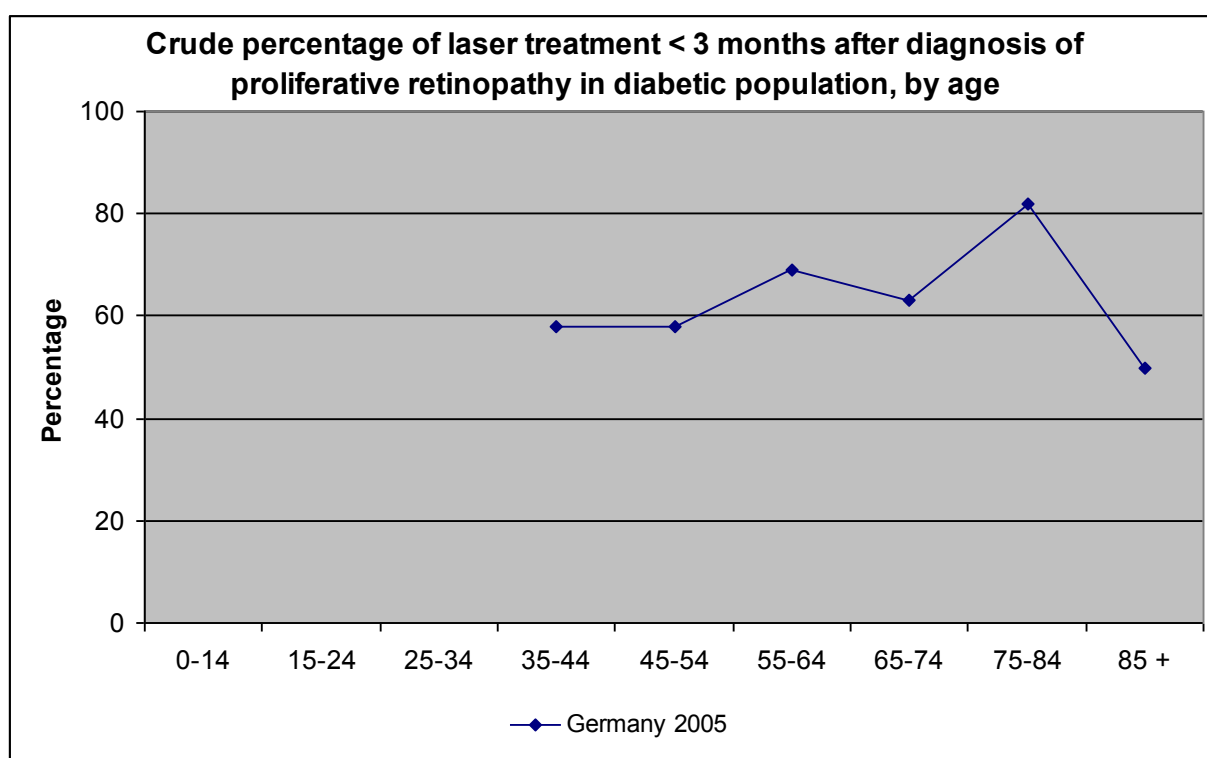
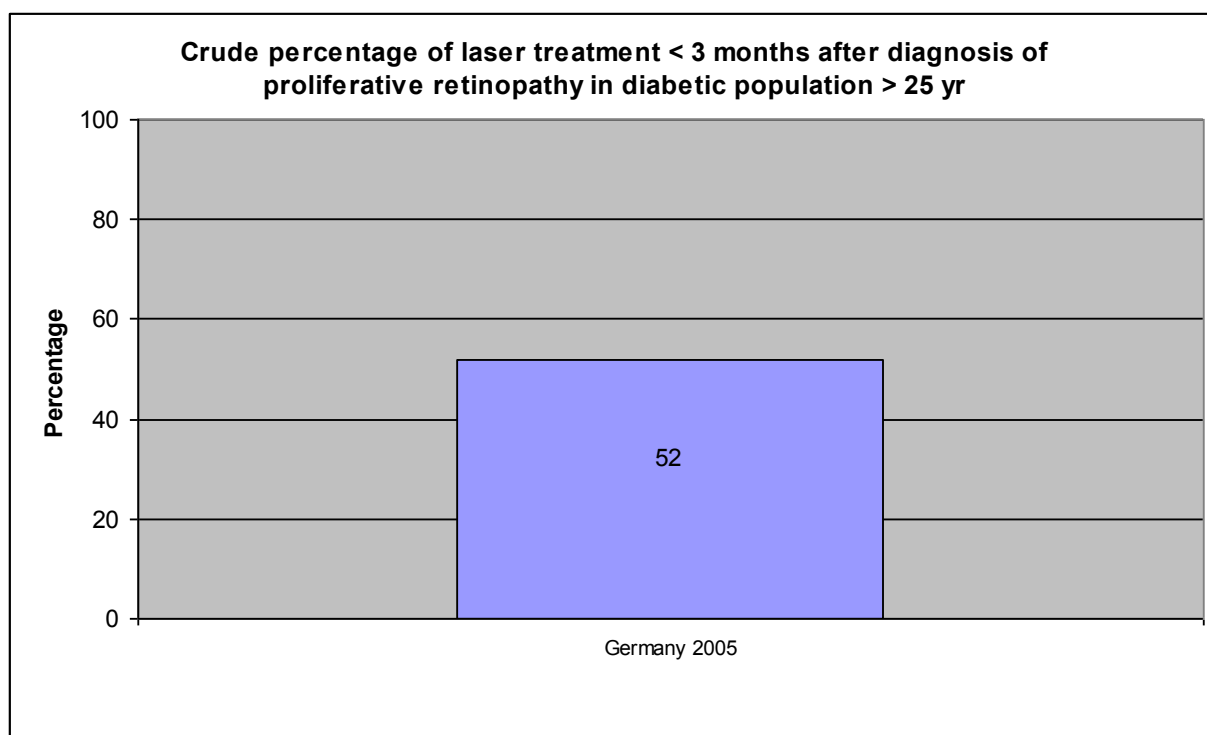
Countries not included in the analysis because not representative

- Spain: only age range 62-66 yr included
 - % of diabetes population with laser treatment < 3 months after diagnosis of proliferative retinopathy: 8% (age 62-66 yr)

Discussion

All guidelines state that timely laser treatment for proliferative retinopathy is mandatory, because if the fundus treatment of the eye is delayed blindness could be the result.

This indicator is only available for Germany. In Germany the percentage of timely treatment is 52.



Indicator: % of blindness caused by diabetes (core indicator)**Definition:**

Ratio: Annual incidence of blindness due to diabetic retinopathy /total annual incidence of blindness from independent blindness national registry. Annual incidence of blindness is the number of new cases of blindness in one year. Blindness is defined as legal blindness (nationally defined).

Data availability

Countries not able to provide data

- Belgium, Cyprus, Denmark, France, England, Greece, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Scotland, Sweden

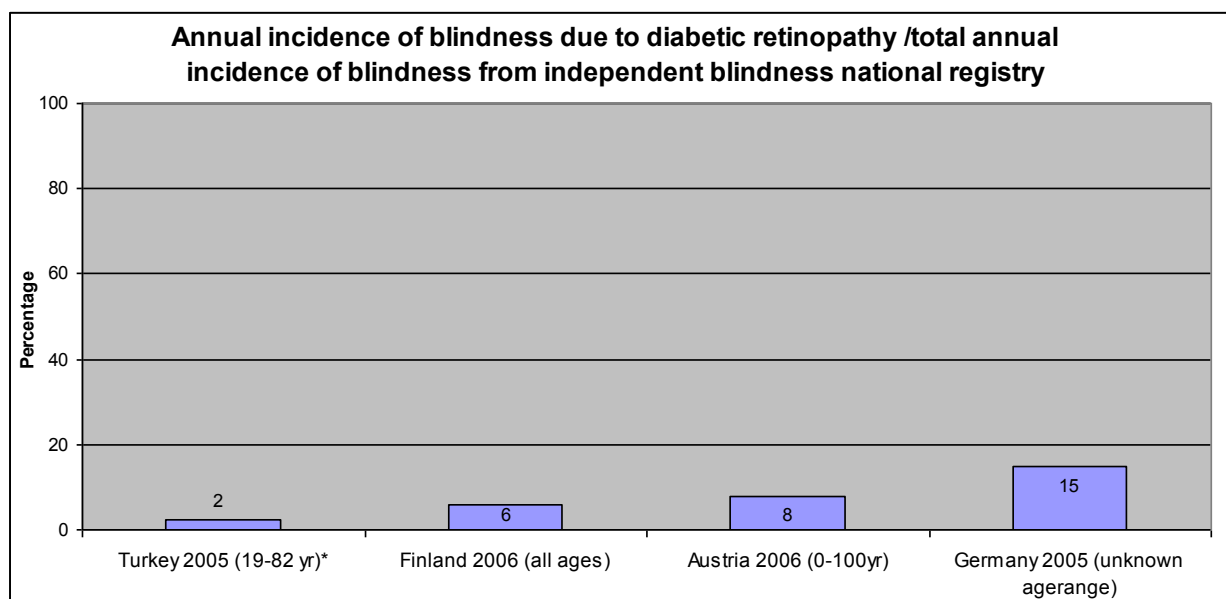
Countries not included because data not from 2005 +/- 1 year

- Spain: data from 1997-2001
 - % of blindness caused by diabetes: 9,6% (unknown age range)

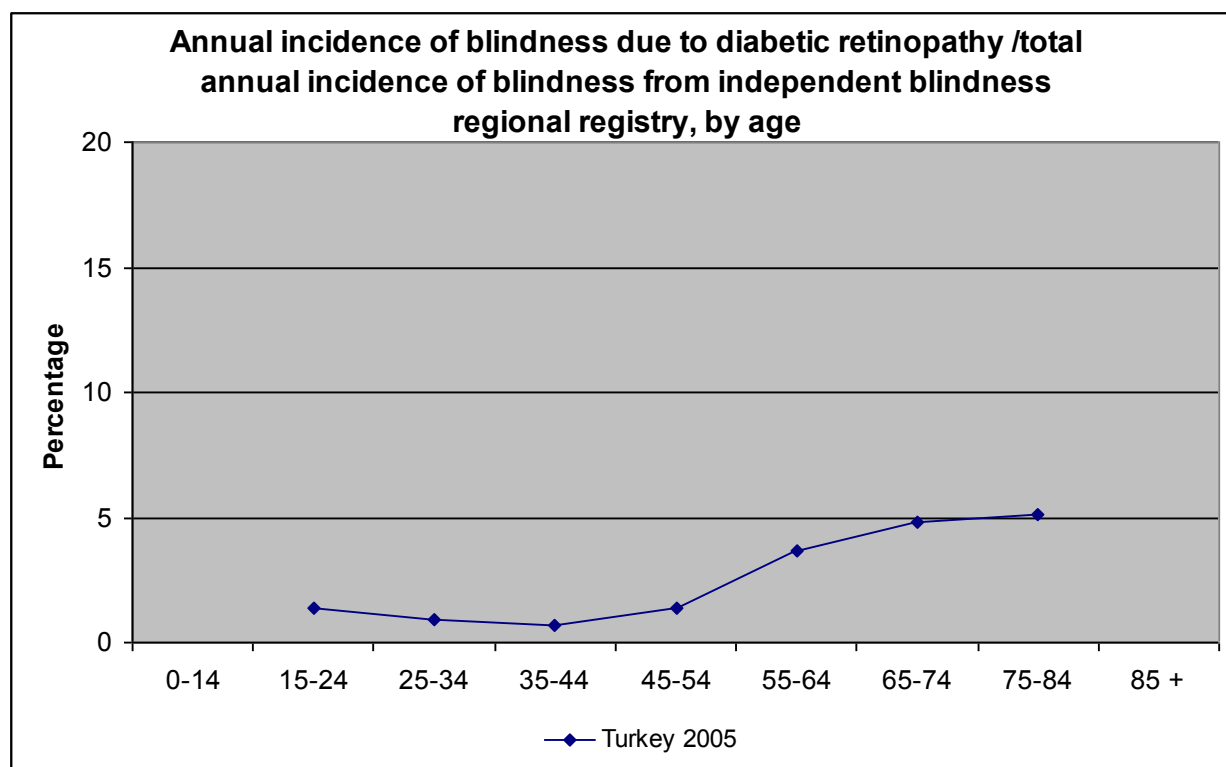
Discussion

Diabetic eye disease is stated to be the first cause of blindness in the industrialized world by all guidelines. Good preventive care in the form of eye screening and timely laser treatment of diabetic eye disease can prevent a high percentage of blindness caused by diabetes. The final outcome of diabetic eye disease is blindness. The information based on diabetic populations is however very rare. In our project only four countries could provide data for this indicator.

The percentage for this indicator varied from 2 to 15 amongst the four countries that could provide data. Only Turkey could provide age bands.



* regional in stead of national registry



Renal complications in diabetic population

Indicator: % with serum creatinin tested in last 12 months

Definition:

Percentage of diabetic population that had their serum creatinine tested during the last 12 months.

Data availability

Countries not able to provide data

- Denmark, Greece, Italy, Luxembourg, Poland, Portugal, Turkey

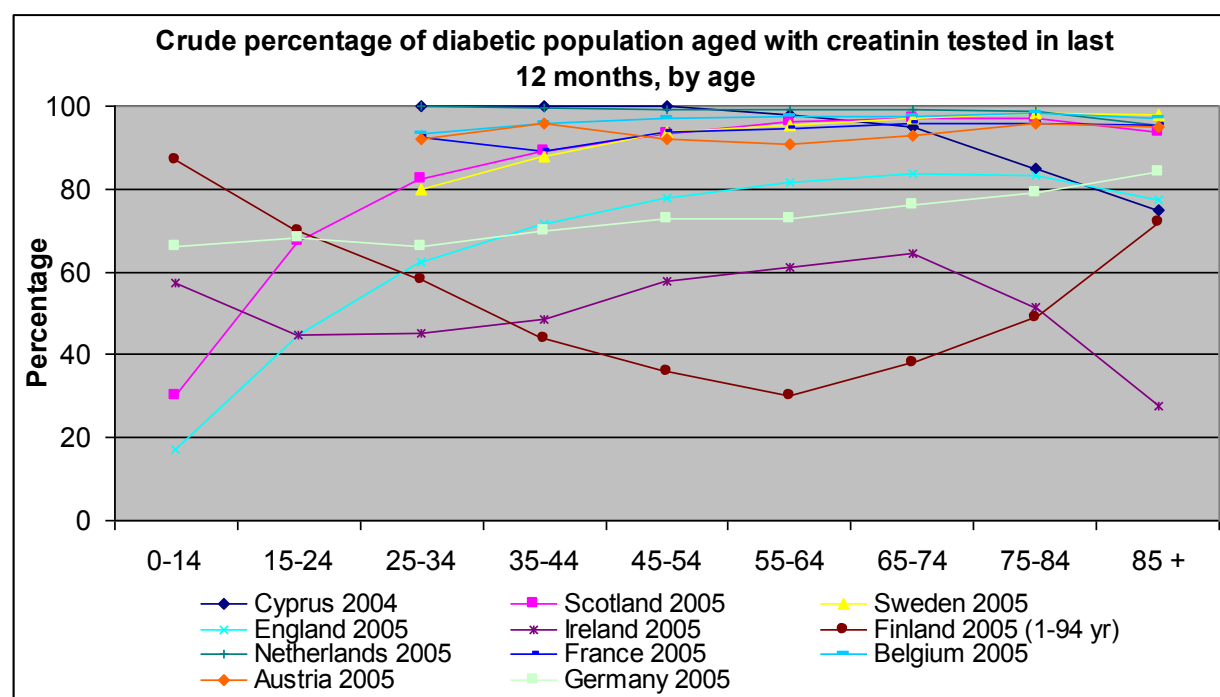
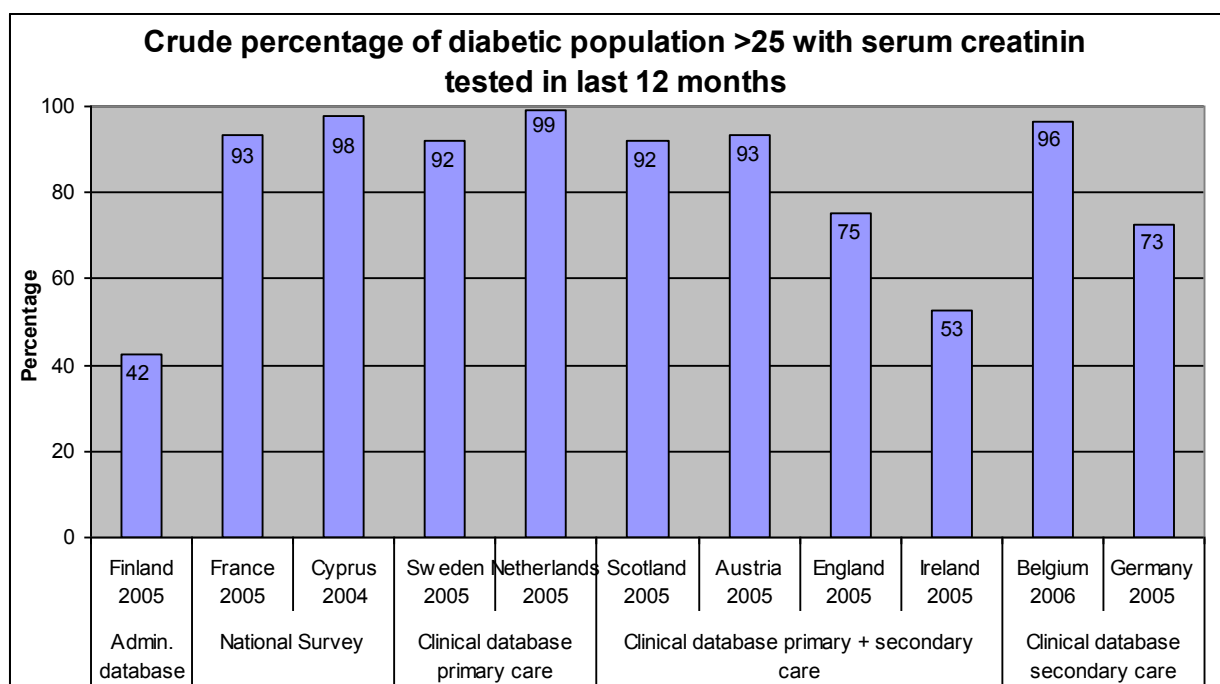
Countries able to provide total but not age band data

- Spain, Romania

Discussion

Kidney damage caused by diabetes is one of the combined micro- and macrovascular diseases. Timely diagnosis is important since intervention can slow down the process of kidney function loss. All guidelines advice to measure kidney function by means of serum creatinine at least once a year.

The percentage for this indicator varied from 42 to 99. There is not a clear difference amongst age bands.



Indicator: % of those tested with creatinin who has End Stage Renal Failure (ESRF) in last 12 months

Definition:

Percentage of diabetic population with creatinin tested in the last 12 months who has End Stage Renal Failure (ESRF). ESRF is defined as serum creatinine above or equal to 400 umol/l (WHO definition).

Data availability

Countries not able to provide data

- Austria, Denmark, Greece, Ireland, Luxembourg, Poland, Portugal, Romania, Spain

Countries not included because data not from 2005 +/- 1 year

- Turkey: data from 2002
 - % of diabetes population tested for creatinin and ESRF: 1,5% (age 20-82)
- Italy: data from 2001
 - % of diabetes population tested for creatinin and ESRF: 0,64% (all ages)

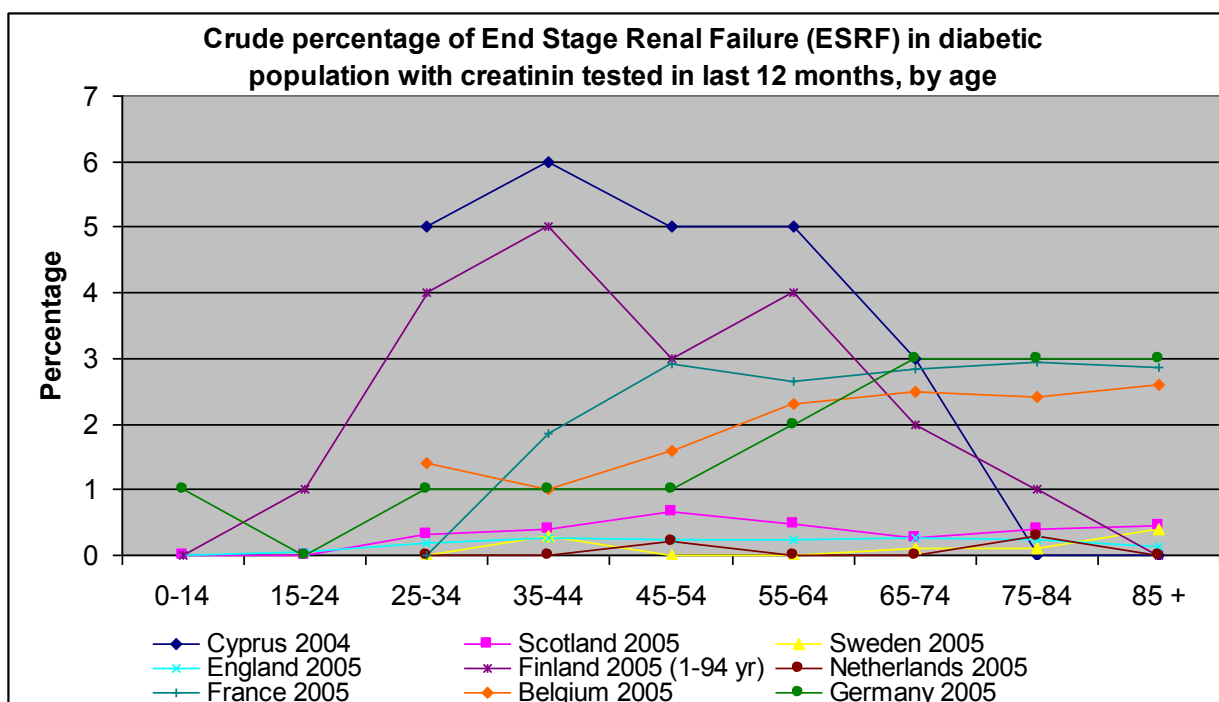
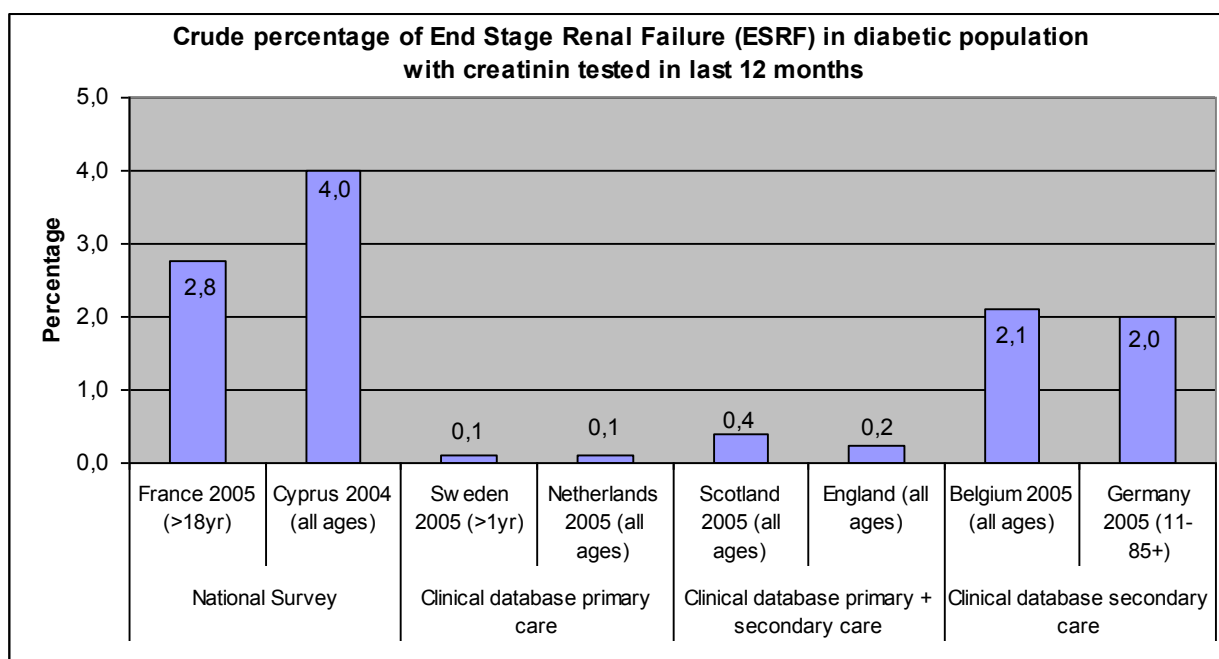
Countries able to provide (some) age bands but no total

- Finland

Discussion

This indicator shows the prevalence of end stage renal failure in a diabetic population. Many countries were not able to provide these data. Patients often change health care service once they need kidney function replacement therapy, so the percentage can be falsely low. This means that a population from a treatment database for diabetic individuals is not the perfect way to screen for this population. The incidence of end stage renal failure is that low that also this indicator is not optimal unless it depends on a very large population.

The percentage for this indicator varied from 0.1 to 4.0.



Indicator: Annual Incidence of dialysis and/or transplantation (renal replacement therapy) per 100.000 diabetic population (core indicator)

Definition:

The annual incidence of dialysis and/or transplantation is defined as the number of new cases with dialysis and/or transplantation (renal replacement therapy) per 100.000 individuals in the diabetic population in one year.

Data availability

Countries not able to provide data

- Belgium, England, Germany, Greece, Ireland, Luxembourg, Poland, Portugal, Romania, Sweden, Turkey

Countries able to provide total but no age bands

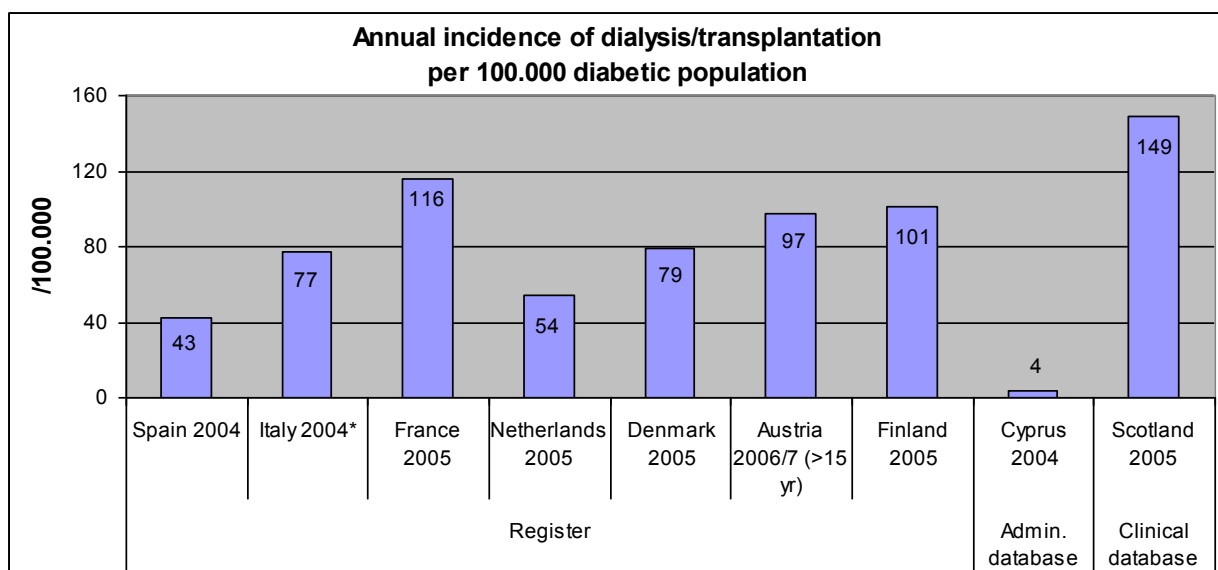
- Spain, Italy

Countries able to provide total and some but not all age bands

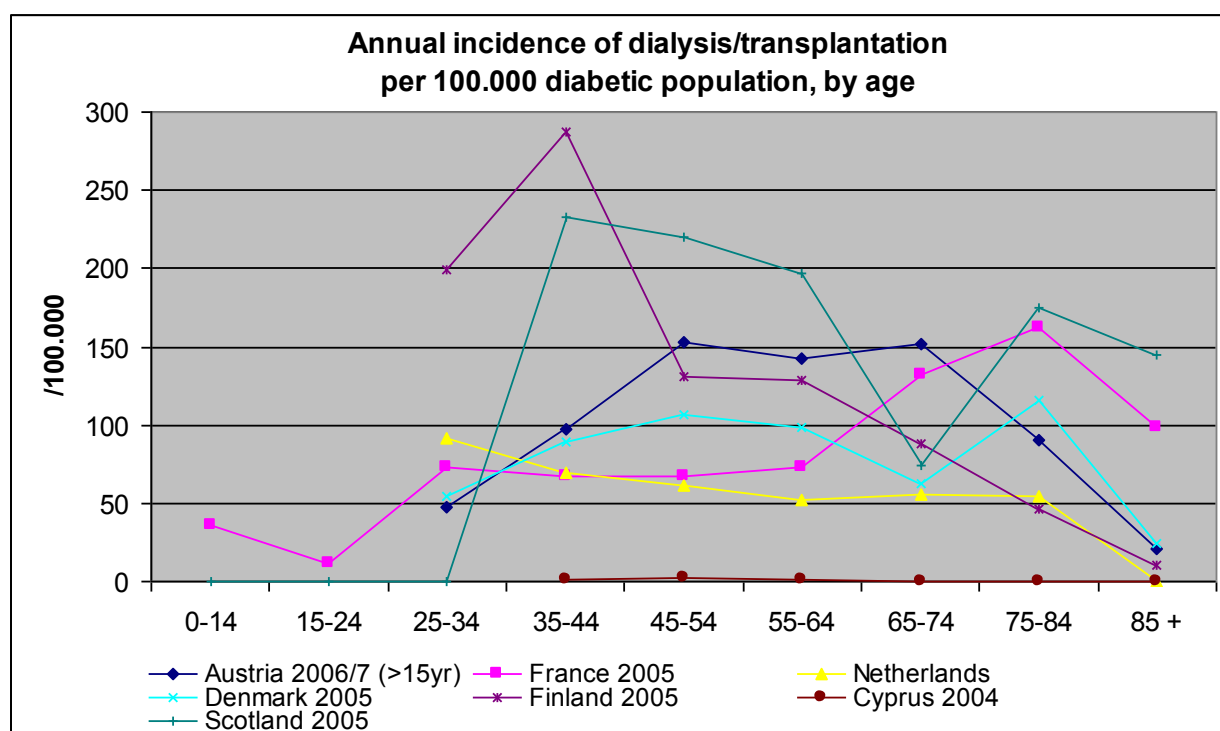
- Cyprus, the Netherlands, Scotland

Discussion

Incidence of kidney function replacement therapy, in the form of dialysis, or kidney transplantation can only be collected on a national basis or from very large databases. Many countries have either national registers or administrative databases that can collect data for this indicator. Dialysis in diabetic population can also be a policy decision from the political or insurance bodies and depends on the availability of dialysis facilities. The indicator of incidence for dialysis or kidney transplantation varied from 4 to 149. Before the age band of 75 - 84 years of age the indicator decreases.



*transplantation excluded



Indicator: Prevalence (stock) of dialysis/transplantation per 100.000 diabetic population (core indicator)

Definition:

Prevalence (stock) is the number of all cases with dialysis/transplantation per 100.000 individuals in the diabetic population.

Data availability

Countries not able to provide data

- Germany, Greece, Ireland, Luxembourg, Poland, Portugal, Romania, Sweden, Turkey

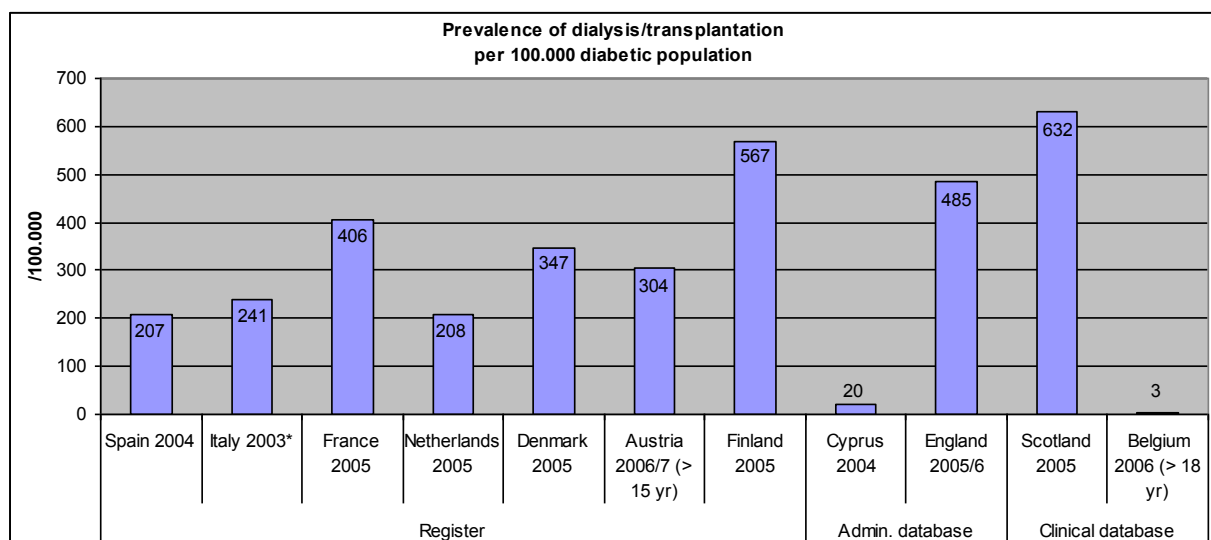
Countries able to provide total but no age bands

- Spain, Italy

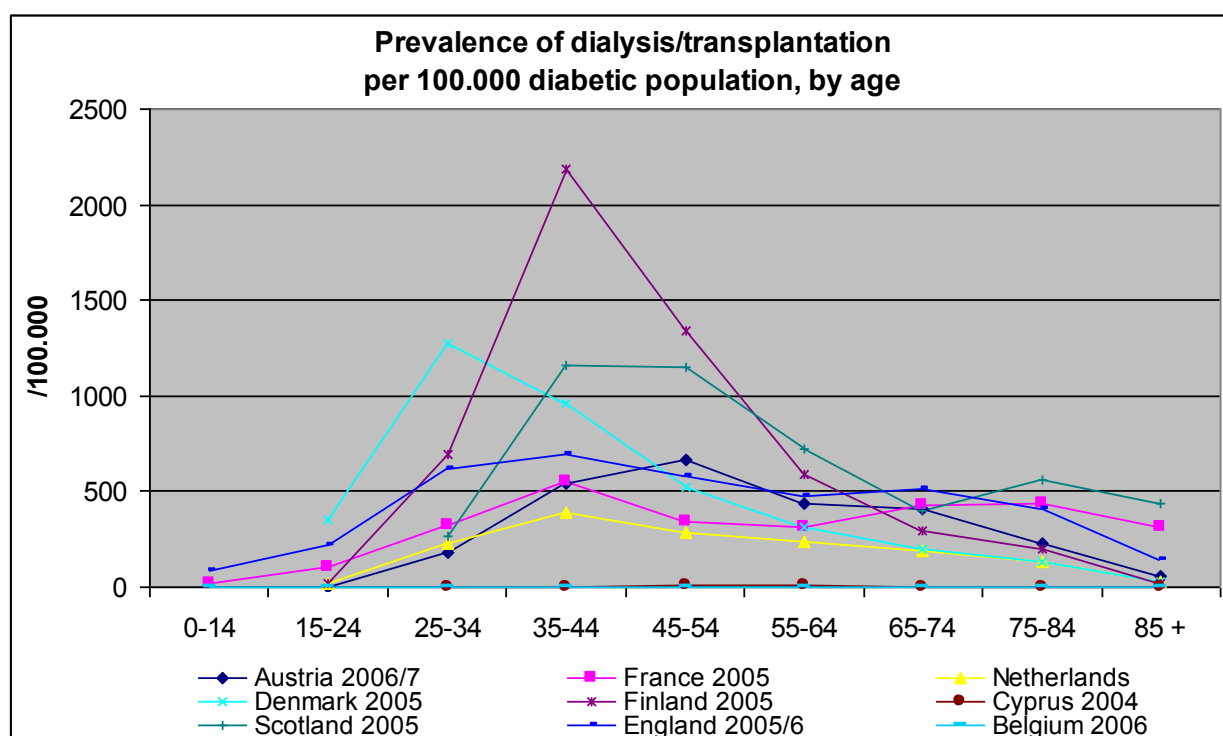
Discussion

Prevalence of dialysis in the diabetic population is an outcome indicator. This prevalence is dependant on availability of dialysis facilities and the policy to dialyse patients with diabetes and end stage renal failure. The form of database, if not national complete data, also influences the prevalence. If a clinical service excludes dialysis patients the prevalence is of course also low.

The indicator for dialysis in the diabetic population varied from 3 to 632. Apart from the ages below 25 there is no clear age band effect.



*transplantation excluded



Stroke in diabetic population

Indicator: Annual incidence of stroke per 100.000 diabetic population

Definition:

The annual incidence of stroke is defined as the number of new cases with stroke (both ischemic and bleeding) per 100.000 individuals in the diabetic population in one year.

Data availability

Countries not able to provide data

- Belgium, France, Greece, Ireland, Poland, Romania, Sweden, Turkey

Countries not included because data not from 2005 +/- 1 year

- Italy: data from 1999-2003
 - Annual incidence of stroke per 100.000 diabetic population: 520 (aged 40-90 yr)
- Finland: data from 2002
 - Annual incidence of stroke per 100.000 diabetic population: 1936 (all ages)

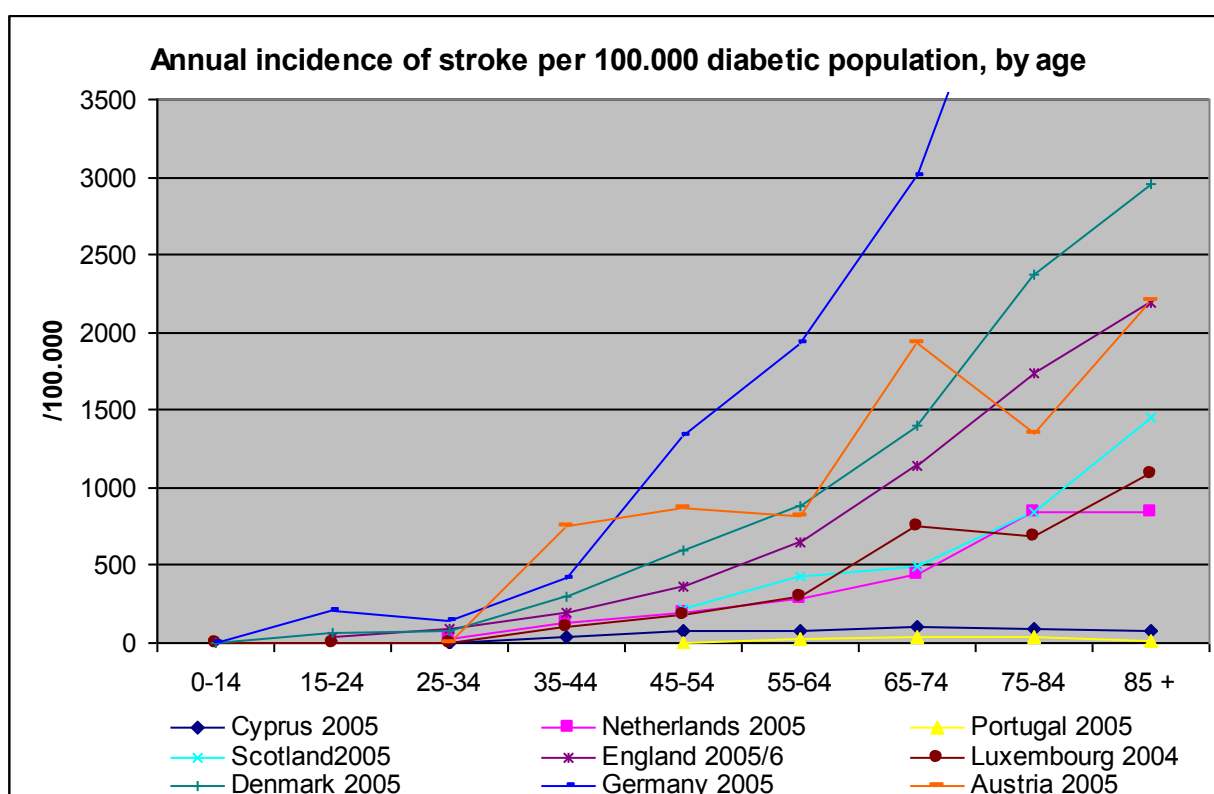
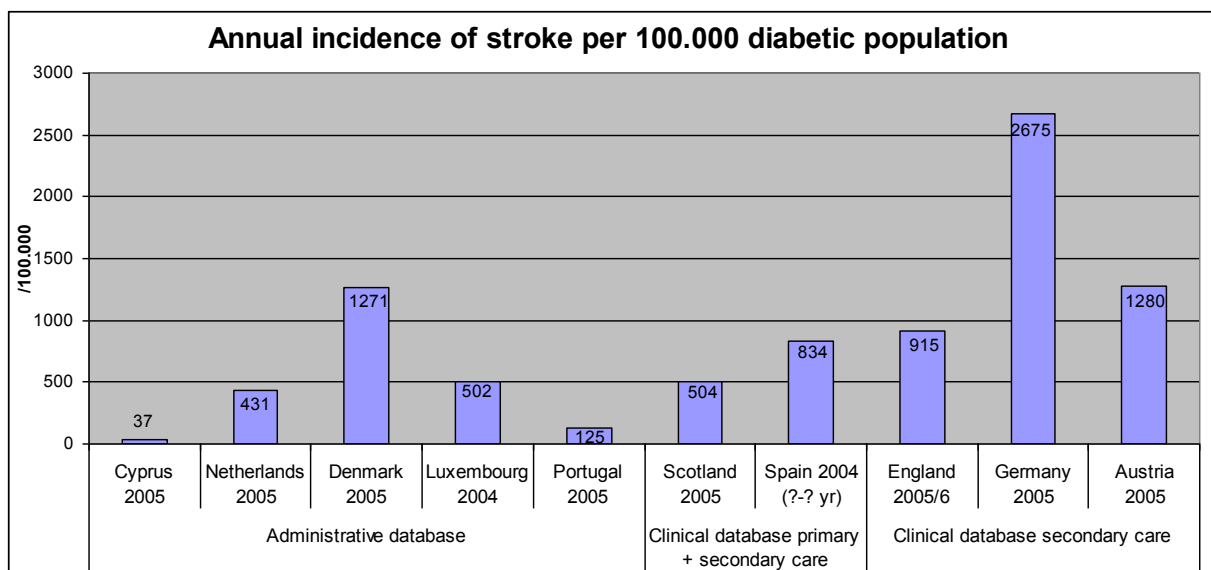
Countries able to provide total but not age band data

- Spain

Discussion

Stroke incidence in the diabetic population is also an important outcome indicator for macrovascular disease. This is one of the end points that can be influenced by preventive treatment of macrovascular risk factors. The form of database influences this indicator: administrative national databases give other figures than clinical databases. To the primary diagnosis of stroke the secondary diagnosis of diabetes will not be registered in the same way in all countries. For clinical databases the population influences this indicator. The patient group in secondary care most of the time has a longer duration of diabetes and higher age, both factors that influence this risk factor.

The indicator incidence of stroke in the diabetic population varies from 37 to 2675 per 100.000. As could be expected there is a clear influence of age on the indicator: the older the higher the incidence.



Myocardial infarction in diabetic population

Indicator: Annual incidence of any myocardial infarction (MI) per 100.000 diabetic population

Definition:

The annual incidence of any myocardial infarction is defined as the number of new cases with any MI per 100.000 individuals in the diabetic population in one year.

Data availability

Countries not able to provide data

- Belgium, France, Greece, Ireland, Poland, Romania, Sweden, Turkey

Countries not included because data not from 2005 +/- 1 year

- Italy: data from 1999-2003
 - Annual incidence of MI per 100.000 diabetic population: 650 (aged 40-90 yr)
- Finland: data from 2002
 - Annual incidence of MI per 100.000 diabetic population: 2607 (all ages)

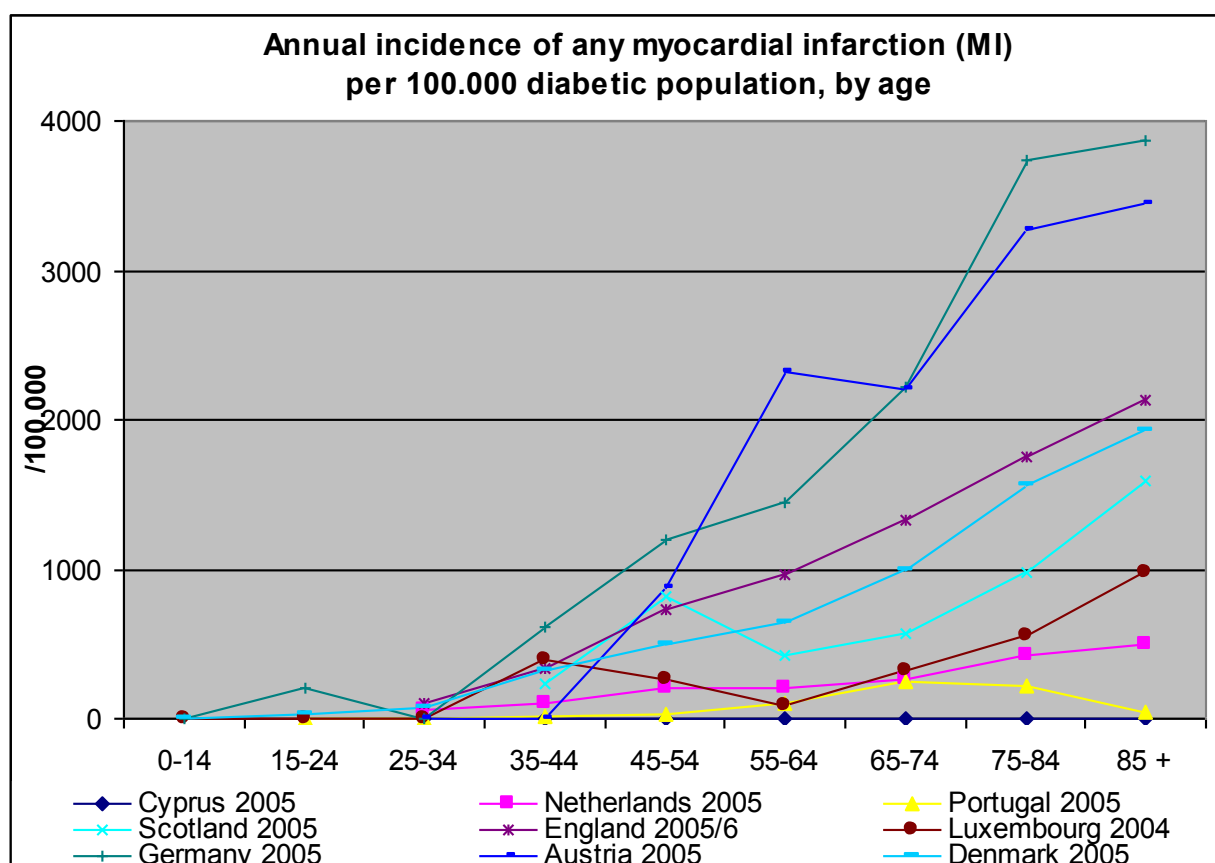
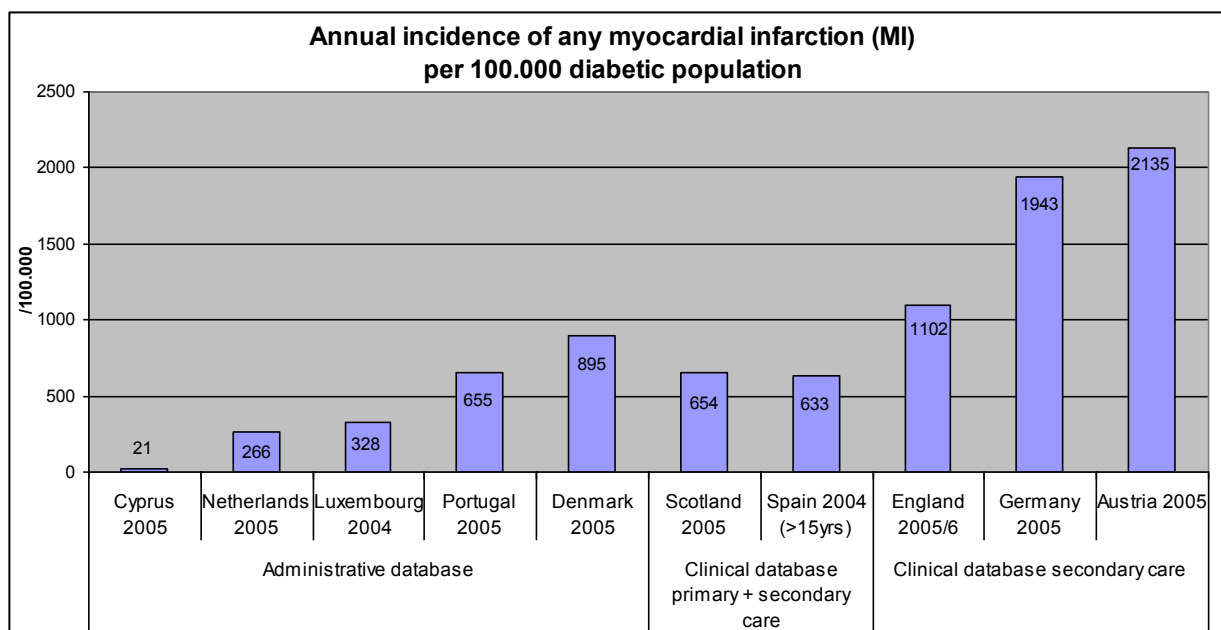
Countries able to provide total but not age band data

- Spain

Discussion

The incidence of myocardial infarction in a diabetic population is an outcome indicator for macrovascular disease. This is one of the end points that can be influenced by preventive treatment of macrovascular risk factors. The form of database influences this indicator: administrative national databases give other figures than clinical databases. To the primary diagnosis of stroke the secondary diagnosis of diabetes will not be registered in the same way in all countries. For clinical databases the population influences this indicator. The patient group in secondary care most of the time has a longer duration of diabetes and higher age, both factors that influence this risk factor.

The incidence for this indicator varies from 21 to 2135. The indicator is dependent on age with a rising incidence above middle age.



Amputation in diabetic population

Indicator: Annual incidence of major amputations (major = above ankle – not inside! -) per 100.000 diabetic population

Definition:

The annual incidence of major amputations is defined as the number of new cases of major amputations (major = above ankle – not inside! -) per 100.000 individuals in the diabetic population in one year.

Data availability

Countries not able to provide data

- Belgium, Cyprus, France, Greece, Ireland, Poland, Romania, Sweden, Turkey

Countries not included because data not from 2005 +/- 1 year

- Italy: data from 2000
 - Annual incidence of major amputations per 100.000 diabetic population: 179 (all ages)
- Finland: data from 2002
 - Annual incidence of major amputations per 100.000 diabetic population: 954 (all ages)

Countries able to provide total but not age band data

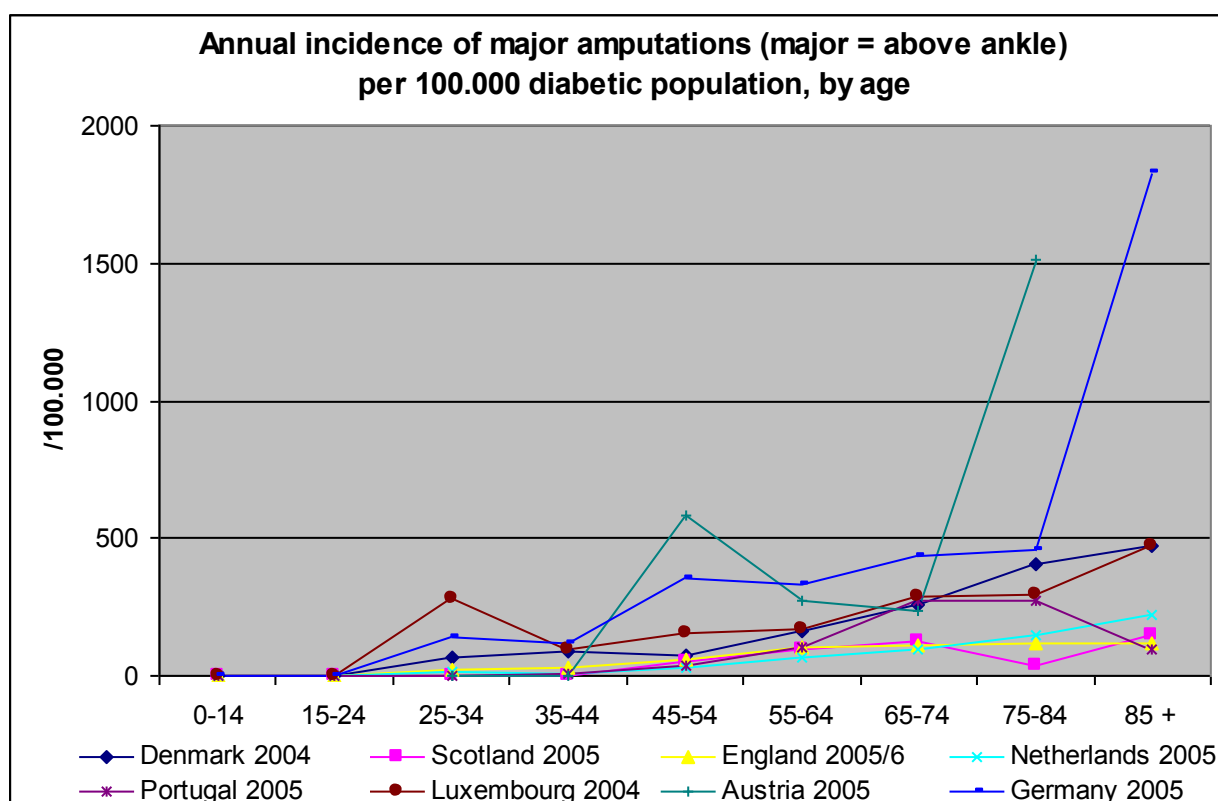
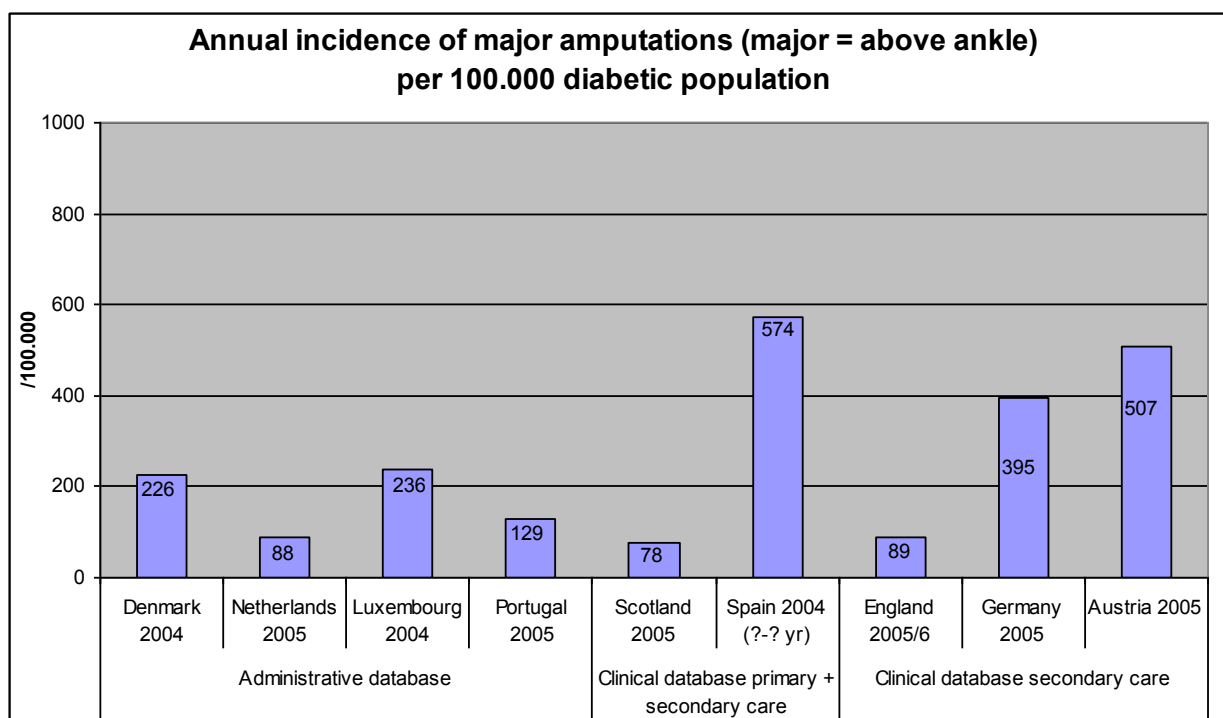
- Spain

Countries able to provide total and some but not all age bands

- Scotland

Discussion

The incidence of major limb amputation in a diabetic population is an outcome indicator for macrovascular disease. This is one of the end points that can be influenced by preventive treatment of macrovascular and neuropathy risk factors. The form of database influences this indicator: administrative national databases give other figures than clinical databases. To the primary diagnosis of stroke the secondary diagnosis of diabetes will not be registered in the same way in all countries. For clinical databases the population influences this indicator. The patient group in secondary care most of the time has a longer duration of diabetes an higher age, both factors that influence this risk factor. This indicator varies from 78 to 574 per 100.000 diabetes patients. There is a trend to increase with age.



Indicators part 5 – process and outcome per country

Methodology

For every country a spider web has been created for process and outcome indicators. The 6 'legs' of the spider web consist of the following process and outcome indicators:

	PROCESS	OUTCOME
1	HbA1c	HbA1c > 7,0%
2	BMI	BMI>=30 kg/m2
3	Blood pressure	Blood pressure >140/90
4	Cholesterol	Cholesterol > 5 mmol/l
5	HDL-cholesterol	HDL-cholesterol <1,0 men and 1,25 women
6	Albuminuria	Albuminuria abnormal
reserve	Triglycerides	Triglycerides <2,3mmol/l
reserve	Creatinin	End Stage Renal Failure
reserve	LDL-cholesterol	LDL-cholesterol >2,6mmol/l
reserve	Fundus tested	Retinopathy

Both the process and outcome indicators should be provided by the country. Both indicators should be derived from the same data source. If one or more of the 6 indicators was not available one of the 'reserve' indicators was chosen.

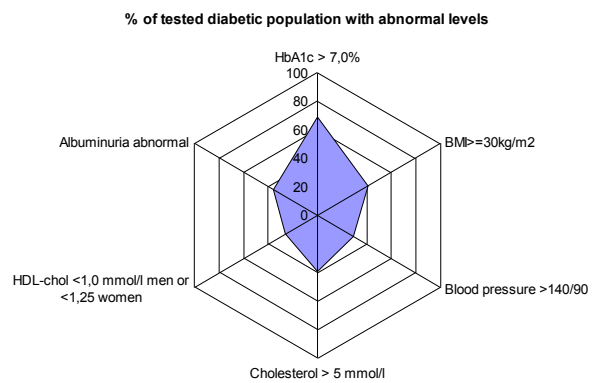
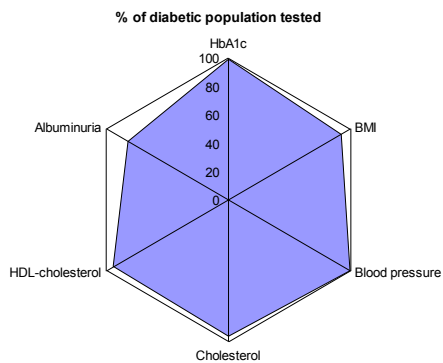
Countries with not enough data to prepare spider webs:

- Denmark (no totals provided), Greece, Luxembourg, Poland, Portugal, Romania, Turkey

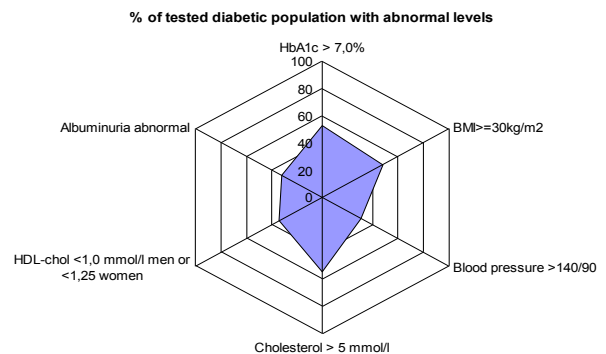
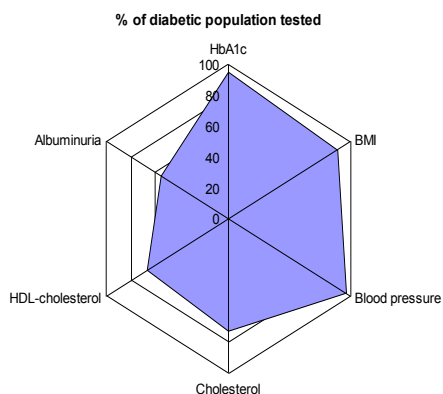
Crude rates of process and outcome indicators, all ages

Countries with all 6 indicators (HbA1c, BMI, Blood pressure, Cholesterol, HDL-cholesterol, Albuminuria) available.

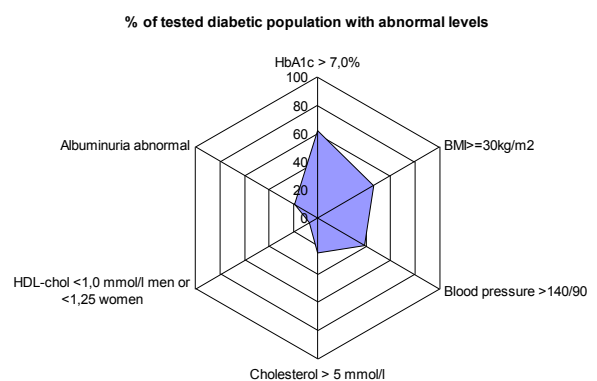
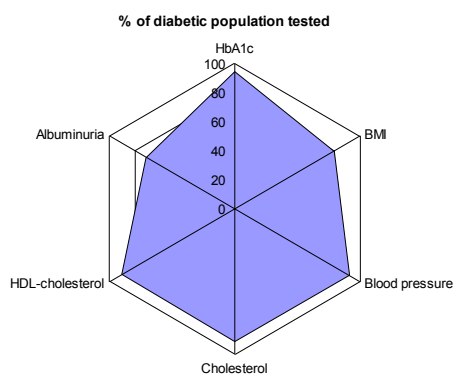
Belgium 2005, secondary care



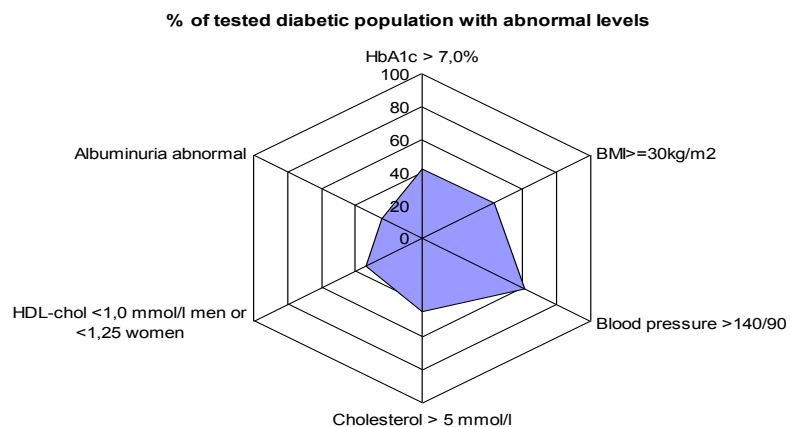
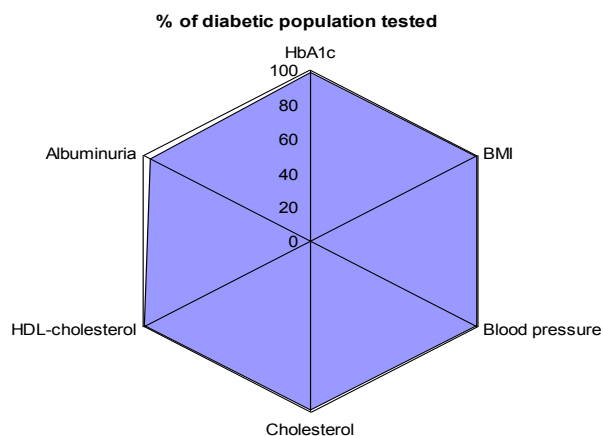
Germany 2005, secondary care



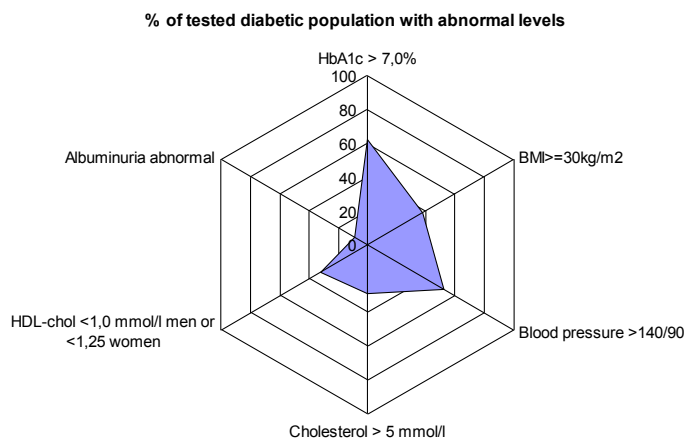
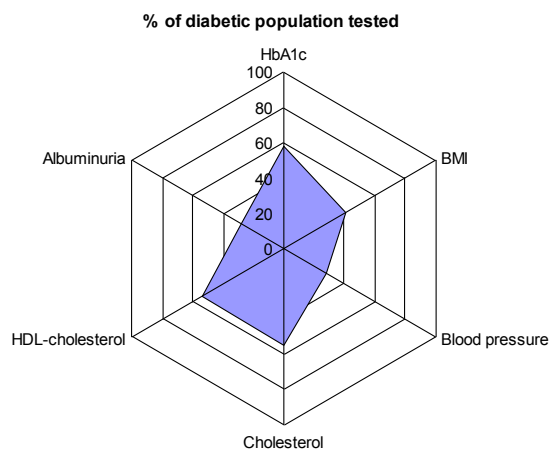
Scotland 2005, primary + secondary care



The Netherlands 2005, primary care



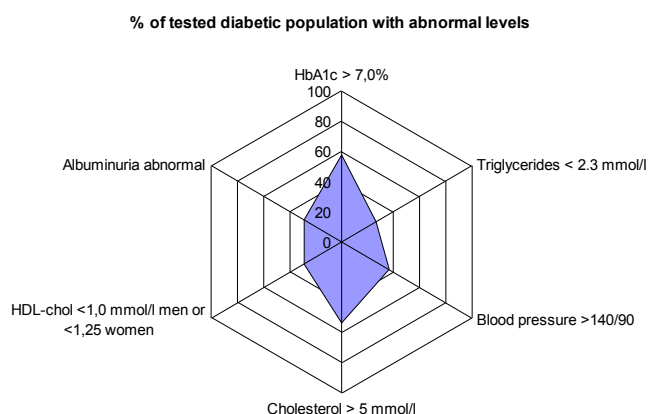
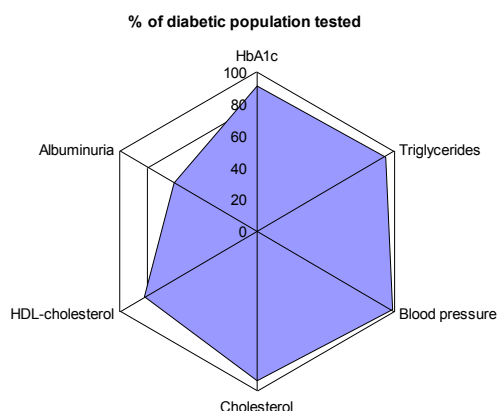
Finland 2005, administrative database



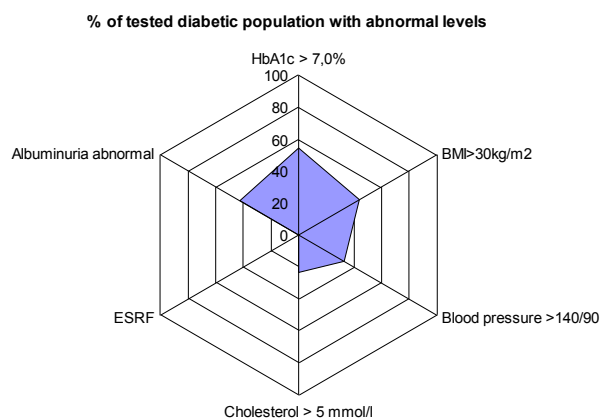
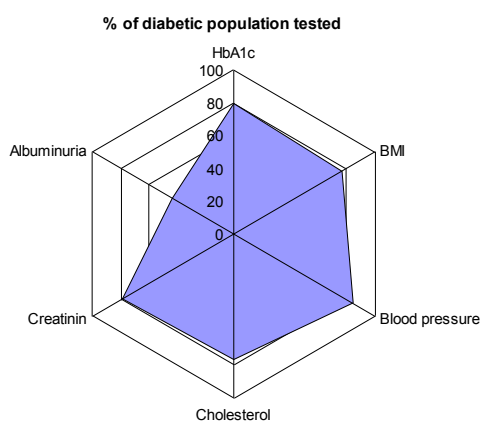
Countries with NOT all 6 indicators (HbA1c, BMI, Blood pressure, Cholesterol, HDL-cholesterol, Albuminuria) available.

The missing indicators are replaced by one of the reserve indicators: Triglycerides, Creatinin, LDL-cholesterol, Fundus tested

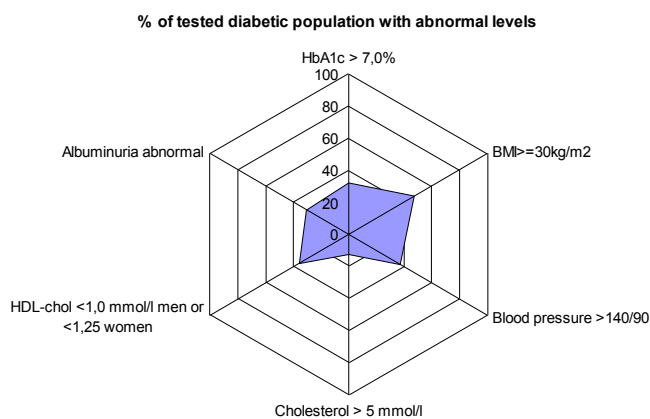
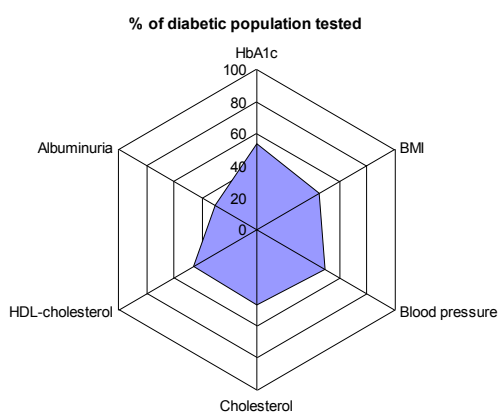
Austria 2005, primary + secondary care



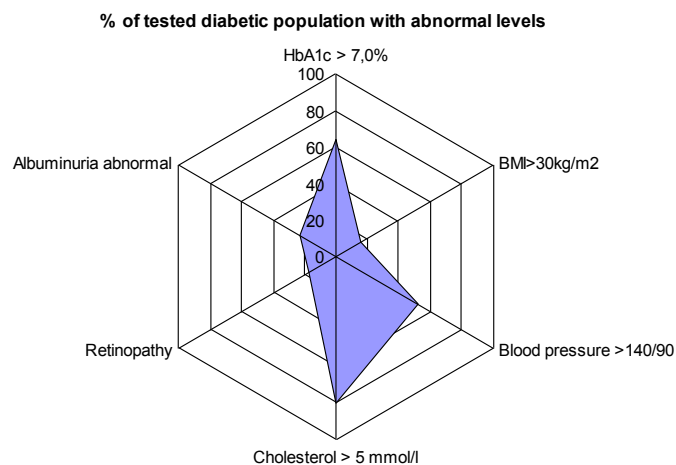
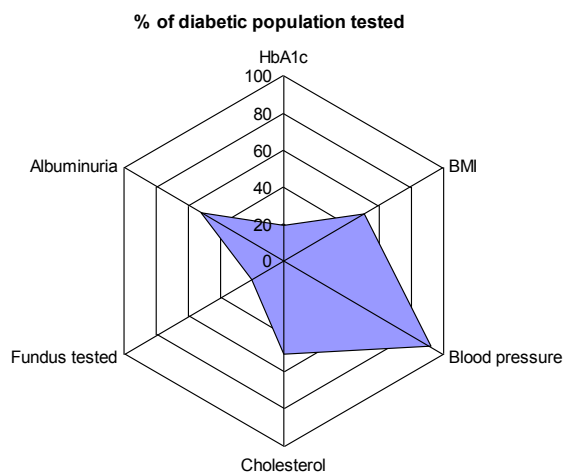
England 2005, primary + secondary care



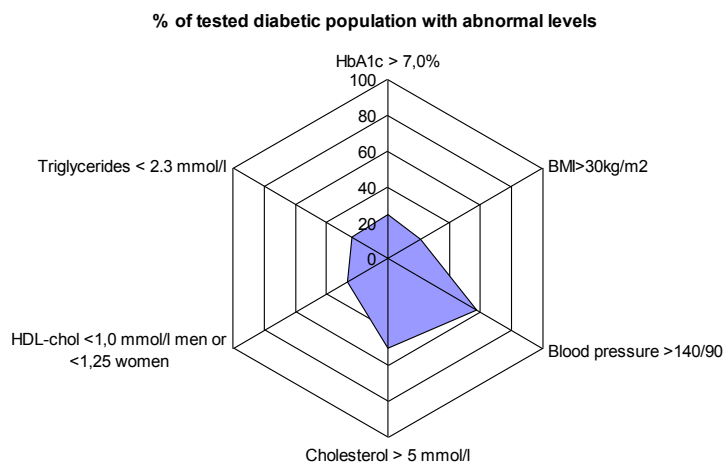
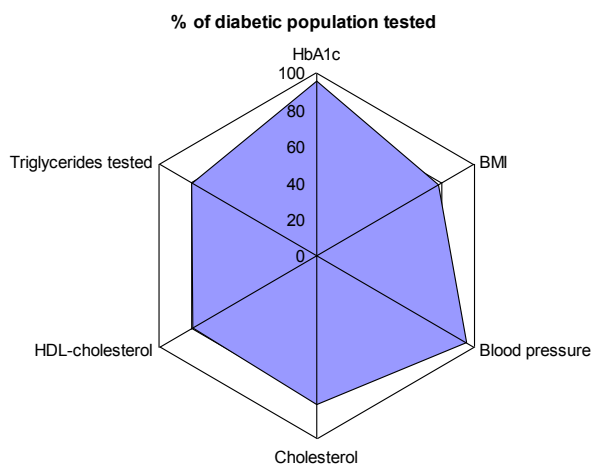
Ireland 2005, primary + secondary care



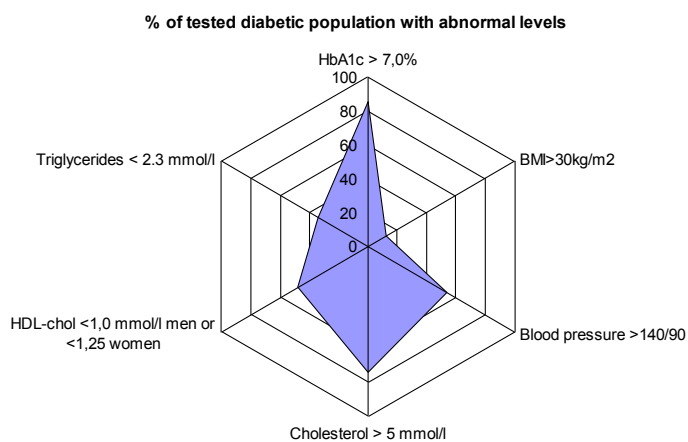
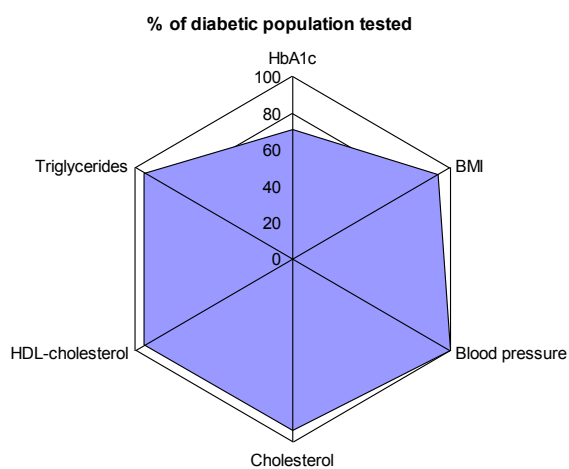
Spain 2005, primary + secondary care



Sweden 2005, primary care

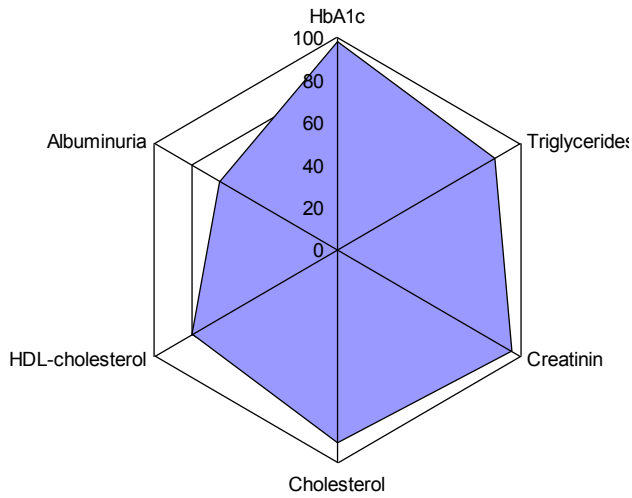


Cyprus 2004, national survey

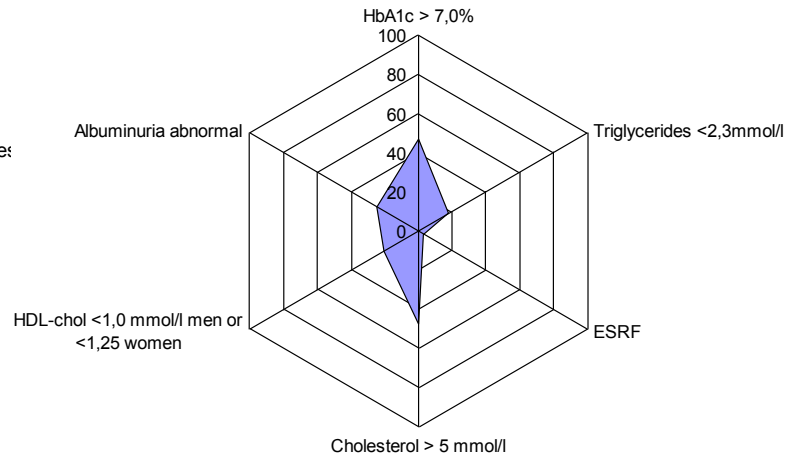


France 2005, national survey

% of diabetic population tested

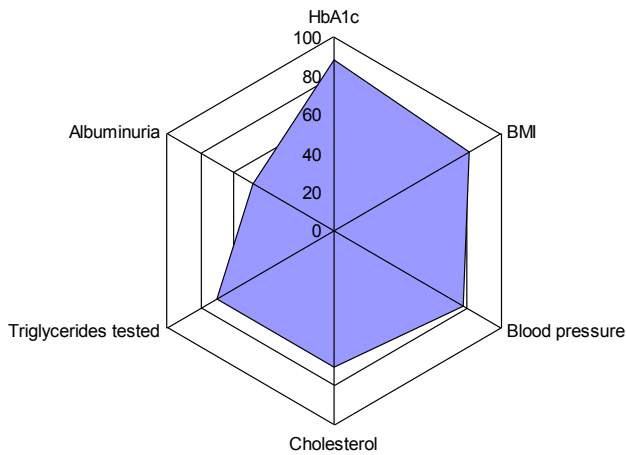


% of tested diabetic population with abnormal levels

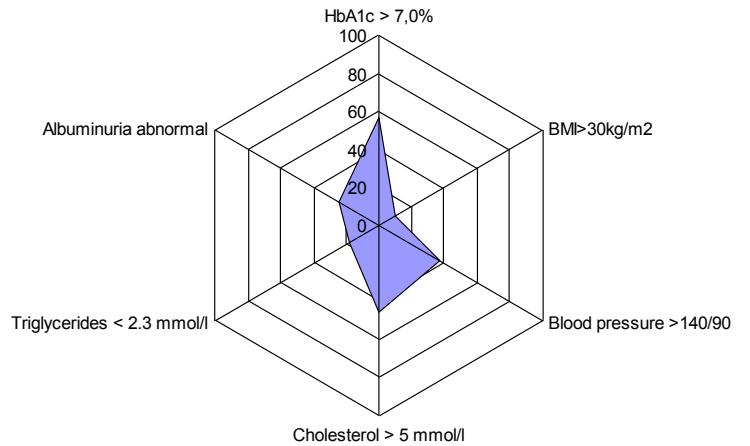


Italy 2004

% of diabetic population tested



% of tested diabetic population with abnormal levels



CONCLUSIONS

To prevent diabetes and plan diabetes care, reliable indicators for risk factors for diabetes and process and outcome of diabetes care are needed. For diabetes there was no system in Europe which collects this information on a regular basis for all the countries. The European Core Indicators in Diabetes (EUCID) project provides these data. The project was supported by a grant of DG-SANCO in 2006 and 2007.

The ECHI indicators provide a good basic set of questions for European Health Interview Surveys, but these are not yet in place in all the European countries. Clinical data however come from different sources being either regional or national. While European epidemiologic systems can provide some diabetes indicators, like prevalence of diabetes, major indicators, as blindness caused by diabetes, are still missing. The completeness of the populations in these clinical databases varies however. The best solution is a database that is complete for a region or country and includes all the primary and secondary care patients. Some examples of this kind of systems exist in Europe. Comparisons are also difficult when different standards are used for measurement. Sweden for instance had to calculate their HbA1c values to international standard before it was possible to compare their data with the rest of Europe. Standards of measurement is an issue that should be addressed in the future.

Most of the European countries achieve remarkable good testing of people with diabetes, however all the data originated from databases that might not reflect the average situation and the true numbers might be different. All of the indicators collected in this project were not complete for all countries, some were available for almost all countries, like prevalence of diabetes, while others were almost non existing, like timely laser treatment for diabetic retinopathy. Also the sources for the data were different, so that the comparability of the indicators is not optimal. Risk factors and outcomes vary across countries, reflecting a mixture of genetic background, societal and cultural factors, as well as public health politics, in combination with local quality of health care.

The results of EUCID will be used within countries to try to influence the policies towards diabetes care. For the European Commission these data will support the discussion on diabetes risk factors and diabetes care in the European Union.

In the future we will need two kind of information on indicators for diabetes risk and diabetes care: first national data on risk factors and prevalence and incidence of diabetes and major complications like stroke, blindness and kidney function replacement therapy and second data on regional or even local quality and quantity of care from clinical databases like indicators on blood pressure and average blood glucose. These indicators will be provided by a system called EUBIROD (European Best Indicators through Regional Outcomes Diabetes), that will combine national and regional indicators in an automated way, so that care planners can always have reliable indicators at their disposal. In this way we will put Diabetes Europe on the map in a more robust and stable way.

APPENDIX 1: ABBREVIATIONS

ADA	American Diabetes Association
BIRO	Best Indicators through Regional Outcomes
BMI	Body Mass Index
BP	Blood Pressure
CBO	Dutch Institute for Quality in Health Care
DARTS	Diabetes Audit and Research in Tayside Scotland
DG-SANCO	Directorate General - Health and Consumer Protection
EASD	European Association for the Study of Diabetes
EC	European Communion
ECHI	European Community Health Indicators
ESRF	End Stage Renal Failure
EU	European Union
EUCID	European Core Indicators in Diabetes
EUDIP	European Diabetes Indicators Project
EUROSTAT	European Statistics from the European Commission
HbA1c	Glycated Haemoglobin (measure for average blood glucose in the last 3 months)
HDL-Cholesterol	High Density Lipoprotein-Cholesterol
HES	Health Examination Survey
HIS	Health Interview Survey
IARC-1976	Age standardization method for European populations
IDF	International Diabetes Federation
LDL-Cholesterol	Low Density Lipoprotein – Cholesterol
mm Hg	millimetres of Mercury (pressure)
WHO	World Health Organisation

Country abbreviations:

AT	Austria
BE	Belgium
CY	Cyprus
DK	Denmark
EN	England
FI	Finland
FR	France
DE	Germany
GR	Greece
IR	Ireland
IT	Italy
LU	Luxembourg
NL	Netherlands
PL	Poland
RO	Romania
SC	Scotland
ES	Spain
SE	Sweden
TR	Turkey

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APPENDIX 3: CODE BOOK EUCID

Introduction

To compare diabetes data amongst countries it is very important to know how comparable the data are and to be sure that the same definitions are used. This was the main task of this deliverable: unambiguous description of the indicators and the databases they derived from. The list of indicators was already defined by the EUDIP project, however to make them interoperable, the partners had to agree upon the definitions of the indicators and indeed also on the list of indicators.

During the first plenary meeting of the EUCID project group the indicators were discussed at length. The main task of the first meeting was indeed to define the indicators. To make the indicators comparable the epidemiologists in the project also defined the questions that had to be answered to describe the database where the indicators were derived from. This resulted in a code book, that was finalized after several rounds of updates of the document by electronic means and telephone conferences. The final step was to set up a database that could contain the data of the indicators and this database was formatted to a web based application that makes the reporting of the different partners straight forward and unambiguous.

Construction of the code book

Since for most countries complete national data are not available and the indicators therefore will be derived from many different sources we had to be sure that the indicators would be comparable. The discussion about the description of the data sources was started at the first general meeting in may 2006 and finalized by the epidemiological specialist of the EUCID group. Four groups of data sources were identified: national complete, national sample, regional complete and regional sample. For each of these sources questions were developed to describe the data source.

The second issue was the normalization of the population. First of all we need the population size of the countries in age bands of 10 years. During the start up meeting we had long discussions if we should also ask for age bands for all indicators and if this was feasible. The group decided that the data would be more comparable if age bands would be provided for the indicators. So the EUCID group agreed that the indicators should also be given in age bands if possible, if not just the global indicator should be provided.

The third issue were the indicators themselves. We followed the EUDIP indicators and added some more.

Codebook EUCID

I. Information needed for every country

Population size (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Population size was calculated for the year.

Note: Please fill in the indicators for Type 1 and Type 2 together (if not otherwise specified). If you have more databases to fill in one indicator, please use the one that is most representative for the national population of your country . Use data from 2005 if possible- if not possible, use data from 2004 or 2006.

II. The indicators

Prevalence of diabetes mellitus / 1000 population (core indicator)

Indicator: Prevalence of diabetes mellitus/1000 population

Definition: The prevalence of diabetes is defined as the ratio of the number of cases of diabetes present in the population per 1000 individuals in that population. Diabetes defined according to WHO/ADA criteria (1998-9).

Prev (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Annual incidence of diabetes by age/100.000 population 0-14 years (core indicator)

Indicator 1: Annual incidence of diabetes in children (0-14 year), type 1 and 2 not separated

Indicator 2: Annual incidence of diabetes in children (0-14 year), type 1 and 2 separated

Definition: The annual incidence of diabetes is defined as the number of new cases of diabetes in children in one year per 100.000 children. Diabetes defined according to WHO/ADA criteria (1998-9).

Inc (total + age bands 0-4, 5-9, 10-14)

Inc_type 1 (total + age bands 0-4, 5-9, 10-14)

Inc_type 2 (total + age bands 0-4, 5-9, 10-14)

BMI in general population (core indicator)

Indicator: % of general population with BMI \geq 25 respectively BMI \geq 30

Definition: Body Mass Index (BMI) is defined as weight per square meter (kg/m²)

BMI \geq 30 (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

BMI \geq 30_male (total + age bands)

BMI \geq 30_female (total + age bands)

BMI \geq 25 (total + age bands)

BMI \geq 25_male (total + age bands)

BMI \geq 25_female (total + age bands)

Impaired fasting glucose in general population

Indicator: % of general population with impaired fasting glucose

Definition: Impaired fasting glucose is defined as fasting plasma glucose equal or above 6.1 mmol/l and below 7.0 mmol/l (fasting plasma glucose \geq 6,1 mmol/l and $<$ 7,0 mmol/l)

IFG (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

HbA1c in diabetic population

Indicator 1: % with HbA1c tested in last 12 months

Definition: Percentage of total diabetic population that had their HbA1c measured in the last 12 months.

HbA1c_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those tested with HbA1c >7,0%

Definition: Percentage of total diabetic population with HbA1c tested, where HbA1c is above 7.0 %

HbA1c>7.0 (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Lipids in diabetic population

Indicator 1: % with total cholesterol tested in last 12 months

Definition: Percentage of total diabetic population that had their total cholesterol tested in the last 12 months.

Chol_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those tested with total cholesterol > 5 mmol/l

Definition: Percentage of diabetic population with their total cholesterol tested in last 12 months with a total cholesterol above 5 mmol/l. (If you are not able to use the cutting point of 5mmol/l, please use your own cutting point and specify this in the remarks section)

Chol>5mmol (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 3: % with LDL-cholesterol tested in last 12 months

Definition: Percentage of diabetic population that had their LDL-cholesterol tested in the last 12 months.

LDL_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 4: % of those tested with LDL-cholesterol >2,6 mmol/l

Definition: Percentage of diabetic population with their LDL-cholesterol tested in last 12 months with a LDL cholesterol above 2,6 mmol/l. (If you are not able to use the cutting point of 2,6 mmol/l, please use your own cutting point and specify this in the remarks section.)

LDL_2.6mmol (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 5: % with HDL-cholesterol tested in last 12 months

Definition: Percentage of total diabetic population that had their HDL-cholesterol tested in the last 12 months.

HDL_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 6: % of those tested with HDL-cholesterol < 1,0 mmol/l for man and < 1,25 mmol/l for women.

Definition: Percentage of diabetic population with their HDL-cholesterol tested in last 12 months and HDL cholesterol below 1,0 for men and 1,25 mmol/l for women. (If you are not able to use our cutting points, please use your own cutting point and specify this in the remarks section.)

HDL (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

HDL_male (total + age bands)

HDL_female (total + age bands)

Indicator 7: % with triglycerides tested in last 12 months
Definition: Percentage of diabetic population that had their triglycerides tested in the last 12 months.

Trig_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 8: % of those tested with triglycerides >2,3 mmol/l

Definition: Percentage of diabetic population with their triglycerides tested in last 12 months with triglycerides above 2,3 mmol/l. (If you are not able to use the cutting point of 2,3mmol/l, please use your own cutting point and specify this in the remarks section.)

Trig_2.3mmol(total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Microalbuminuria in diabetic population

Indicator 1: % with microalbuminuria (and % with proteinuria if persistent proteinuria exists) tested in the last 12 months

Definition: Percentage of total diabetic population that had microalbuminuria tested (or proteinuria tested if persistent proteinuria exists) in the last 12 months

album_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those tested with abnormal albuminuria or proteinuria in the last 12 months

Definition: Percentage of diabetic population with microalbuminuria/proteinuria tested in last 12 months with a microalbuminuria above the threshold of normal (locally defined) or a proteinuria

Albuminuria (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Blood pressure in diabetic population

Indicator 1 % with blood pressure measured in last 12 months

Definition Percentage of diabetic population that had their blood pressure measured in the last 12 months

Pressure_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2 % of those tested with blood pressure > 140/90 mmHg in last 12 months

Definition Percentage of diabetic population that had their blood pressure measured in the last 12 months and had a diastolic blood pressure above 90 and/or a systolic blood pressure above 140 mm Hg. (If you are not able to use the cutting point of 140/90 mmHg, please use your own cutting point and specify this in the remarks section.)

Pressure>140/90 (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

BMI in diabetic population

Indicator 1: % with BMI measured

Definition: Percentage of diabetic population that had their BMI measured or had both weight and height available in last 12 months

BMI_diab_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those measured with BMI ≥ 25 kg/m²

Definition: Percentage of diabetic population that had their BMI measured or had both weight and height available, and had a value above or equal to 25 kg/m²

BMI25_diab (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 3: % of those measured with BMI ≥ 30 kg/m²

Definition: Percentage of diabetic population that had their BMI measured or had both weight and height available, and had a value above or equal to 30 kg/m²

BMI30_diab (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Smoking in diabetic population

Indicator 1: % current smokers in diabetic population

Definition: Percentage of current smokers in diabetic population. Smoking is defined as any smoking

Smok_diab (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Retinopathy in diabetic population

Indicator 1: % with fundus inspection in last 12 months

Definition: Percentage of diabetic population that had their eye fundus inspected in last 12 months

Fundus_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those tested with proliferate retinopathy in last 12 months

Definition: Percentage of diabetic population that had their eye fundus inspected in the last 12 months and were diagnosed with a proliferative retinopathy

Retinopathy (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 3: % of those inspected and diagnosed with proliferative retinopathy who received laser treatment < 3 months after diagnosis of proliferative retinopathy

Definition: Percentage of diabetic population that had their eye fundus inspected in the last 12 months and were diagnosed with a proliferative retinopathy and had laser treatment within 3 months

Retino_laser (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 4: % of blindness caused by diabetes (core indicator)
 Definition: Ratio: Annual incidence of blindness due to diabetic retinopathy /total annual incidence of blindness from independent blindness national registry. Annual incidence of blindness is the number of new cases of blindness in one year. Blindness is defined as legal blindness (nationally defined).
Inc_blind (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Nephropathy in diabetic population

Indicator 1: % with serum creatinin tested in last 12 months
 Definition: Percentage of diabetic population that had their serum creatinine tested during the last 12 months
Creatinin_test (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 2: % of those tested with creatinin who has End Stage Renal Failure (ESRF) in last 12 months
 Definition: Percentage of diabetic population with creatinin tested in the last 12 months who has End Stage Renal Failure (ESRF). ESRF is defined as serum creatinine above or equal to 400 umol/l (WHO definition)
ESRF (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 3: Annual Incidence of dialysis and/or transplantation (renal replacement therapy) per 100.000 diabetic population (core indicator)
 Definition: The annual incidence of dialysis and/or transplantation is defined as the number of new cases with dialysis and/or transplantation (renal replacement therapy) per 100.000 individuals in the diabetic population in one year
Inc_dial_transpl (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Indicator 4: Prevalence (stock) of dialysis/transplantation per 100.000 diabetic population (core indicator)
 Definition: Prevalence (stock) is the number of all cases with dialysis/transplantation per 100.000 individuals in the diabetic population (core indicator)
Prev_dial_transpl (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Stroke in diabetic population

Indicator: Annual incidence of stroke per 100.000 diabetic population
 Definition: The annual incidence of stroke is defined as the number of new cases with stroke (both ischemic and bleeding) per 100.000 individuals in the diabetic population in one year
Inc_stroke (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Myocardial infarction in diabetic population

Indicator: Annual incidence of any myocardial infarction (MI) per 100.000 diabetic population

Definition: The annual incidence of any myocardial infarction is defined as the number of new cases with any MI per 100.000 individuals in the diabetic population in one year

Inc_MI (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Amputation in diabetic population

Indicator: Annual incidence of major amputations (major = above ankle – not inside! -) per 100.000 diabetic population

Definition: The annual incidence of major amputations is defined as the number of new cases of major amputations (major = above ankle – not inside! -) per 100.000 individuals in the diabetic population in one year

Inc_amputation (total + age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

Mortality in general population – diabetes cause of death - adjusted (core indicator)

Indicator 1: Annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population (core indicator)

Definition: Annual death rate in patients who have as primary or any cause of death diabetes mellitus/100,000 general population, adjusted for European Standard Population (core indicator)

Mort_diab_adj

If adjustment for European Standard Population is not possible then please provide:

Indicator 2: Annual death rate in the general population from all causes/ 100,000 general population, by age bands

Definition: Annual death rate in the general population from all causes/ 100,000 general population, by age bands

Mort_diab_age band (age bands 0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)

III. Source definition per indicator

For every indicator we need extra information. This is needed for making comparisons between countries. (representativity of national population)

There are 4 types of sources you can select (questions differ per source type)

- | | | |
|--------------------------|------------------------|----------------------------------------------|
| <input type="checkbox"/> | national data complete | (e.g. death certificates) |
| <input type="checkbox"/> | regional data complete | (e.g. DART project Dundee) |
| <input type="checkbox"/> | national sample | (e.g. Entred France) |
| <input type="checkbox"/> | regional sample | (e.g. HIS on obesity of regional population) |

Questions for national data complete

NOTE: only use national data complete if you have data of the complete (diabetic or general) population: primary and secondary care should be included both, also both type 1 and type 2 diabetes should be included! If not please select national sample.

Name of database

What was the year that the data was collected? Use data from 2005 if possible. If not possible use 2004 or 2006.

- ☐ 2004
- ☐ 2005
- ☐ 2006
- ☐ other, please specify

Are all geographic areas included?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know

Are all age-groups included?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know

Are all ethnic groups represented?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know

Do you consider the data representative for the national population of your country?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know. Please specify ...

Type of data collection

- ☐ administrative database
- ☐ clinical database

Percentage of missing data for specified indicator.

Remarks

Questions for regional data complete

NOTE: only use regional data complete if you have data of the complete (diabetic or general) population: primary and secondary care should be included both, also both type 1 and type 2 diabetes should be included! If not please select regional sample.

Name of database

What was the year that the data was collected? Use data from 2005 if possible. If not possible use 2004 or 2006.

- ☐ 2004
- ☐ 2005
- ☐ 2006
- ☐ other, please specify

Geographic location.....

What is de the total population size of the geographic area? If possible by age bands.

What is the agerange? (min, max)

Is the % of ethnic groups with a higher risk of diabetes (e.g. North-African, Pakistani, Hindo's) in the sample different than from the national population?

- ☐ Yes, please specify....
- ☐ No, the distribution is the same as in the national population
- ☐ Don't know

Do you consider the data representative for the national population of your country?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know. Please specify ...

Type of data collection

- ☐ administrative database
- ☐ clinical database

Percentage of missing data for specified indicator.

Remarks

Questions for national sample

Name of survey or sample

What was the year that the data was collected? Use data from 2005 if possible. If not possible use 2004 or 2006.

- ☐ 2004
- ☐ 2005
- ☐ 2006
- ☐ other, please specify

What is the agerange? (min, max)

Is the % of ethnic groups with a higher risk of diabetes (e.g. North-African, Pakistani, Hindo's) in the sample different than from the national population?

- ☐ Yes, please specify....
- ☐ No, the distribution is the same as in the national population
- ☐ Don't know

Do you consider the data representative for the national population of your country?

- ☐ yes
- ☐ no. Please specify ...
- ☐ don't know. Please specify ...

Type of survey (please give the information for the specified indicator!)

- ☐ HIS (Health Interview Survey)
- ☐ HES (Health Examination Survey)
- ☐ Administrative database extraction. Please specify
- ☐ Other, please specify

Sampling methods

- ☐ random
- ☐ complex sampling. Please specify ...
- ☐ clinical database. Please specify ...
- ☐ other, please specify ...

If complex sampling. Are the data weighted?

Size of total sample of survey

Response rate

Size of total surveyed sample

Setting of the survey (if more than one setting please select 'other' and specify)

- ☐ primary care
- ☐ secondary care
- ☐ other, please specify

Type of diabetes

- ☐ 100% type 1 diabetes
- ☐ 100% type 2 diabetes
- ☐ Combination of type 1 and type 2 diabetes. Please specify
- ☐ not applicable (general population)

Definition of diabetes diagnosis (if more than one setting please select 'other' and specify)

- ☐ measured (blood sample)
- ☐ self-reported by patient
- ☐ reported by doctor (not measured)
- ☐ indirect (e.g. by medication prescription)
- ☐ other, please specify ...
- ☐ unknown
- ☐ not applicable, general population

Percentage of missing data for specified indicator.

Remarks

Questions for regional sample

See national sample. + Geographic location. Please specify...

APPENDIX 4: INSTRUCTIONS FOR USE OF DATA ENTRY IN EUCID WEB SITE

Data entry – website instructions

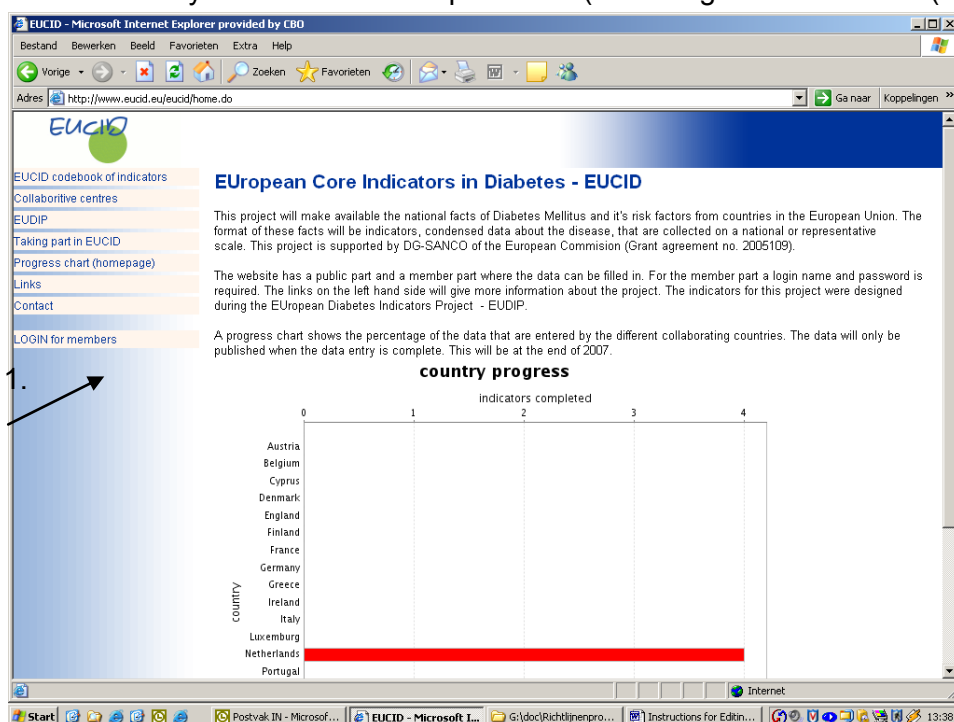


To enter the EUCID website please go to www.eucid.eu.

The home page will show general information about the project and also the report from EUDIP the piloting project that preceded EUCID.

Login for members

The data entry part is only available for members of the EUCID project. To enter this part you have to enter your username and password (click “Login for members” (arrow 1)).



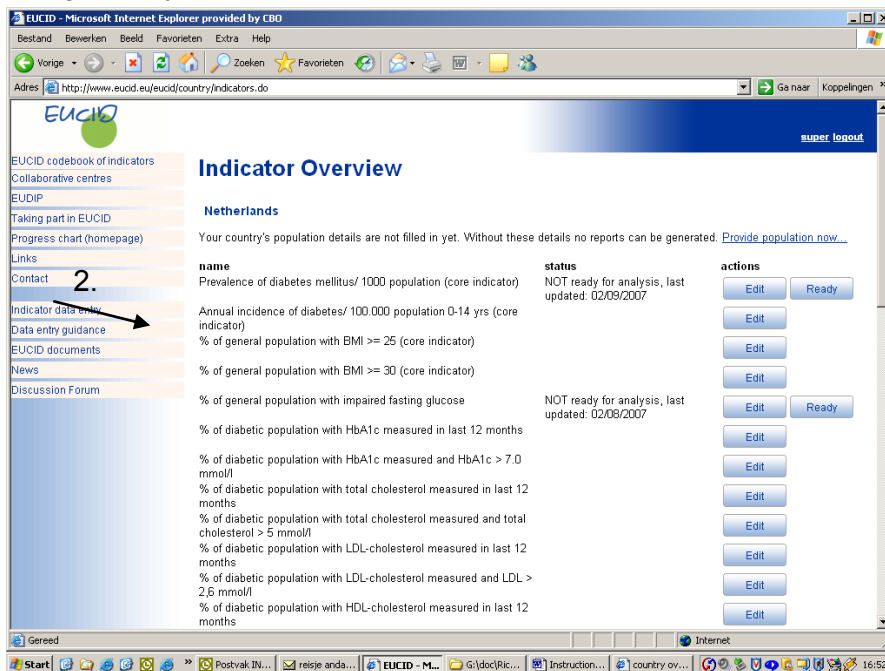
After login extra menu items appear:

- Indicator data entry: here you can enter your data!
- Data entry guidance: a manual how to enter the data
- EUCID documents: minutes of meetings and background information
- News: EUCID's news page
- Discussion forum: forum to discuss problems, solutions and ideas

The username and password are country specific so that you can only edit the data of your own country. You cannot access the data of the other countries. In this way the database will be filled automatically by the partners not interfering with each other.

Data entry

Click “indicator data entry” (arrow 2) to go to the data entry part of the website. You can see under which country you are logged in. If this is not your country please stop and contact us right away.



Step 1. Population data entry

First the population size of your country has to be entered. Click “provide population now” (arrow 3) to fill in your country population size by age bands. We need this to normalise the population of your country to the standard European population. Please fill these data first before you go to the indicators. The data will be added to the database after clicking the button “Send” (arrow 4).

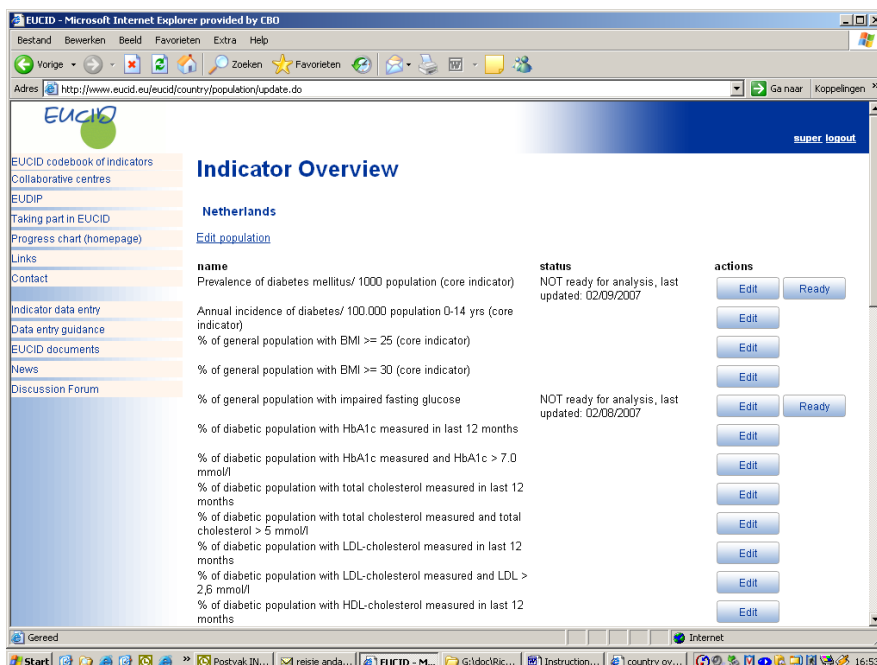
The screenshot shows the 'Edit Population' page for the 'Netherlands'. It prompts the user to 'Please enter the population size of your country.' and provides a table for data entry. The table has columns for age bands (0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+) and rows for Male, Female, and Total. Below the table, there is a section for 'The population size was calculated for the year (preferably 2005)' with a 'year' input field and a 'Save' button. An arrow labeled '4.' points to the 'Save' button.

	0-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85 +	Total
Male	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0

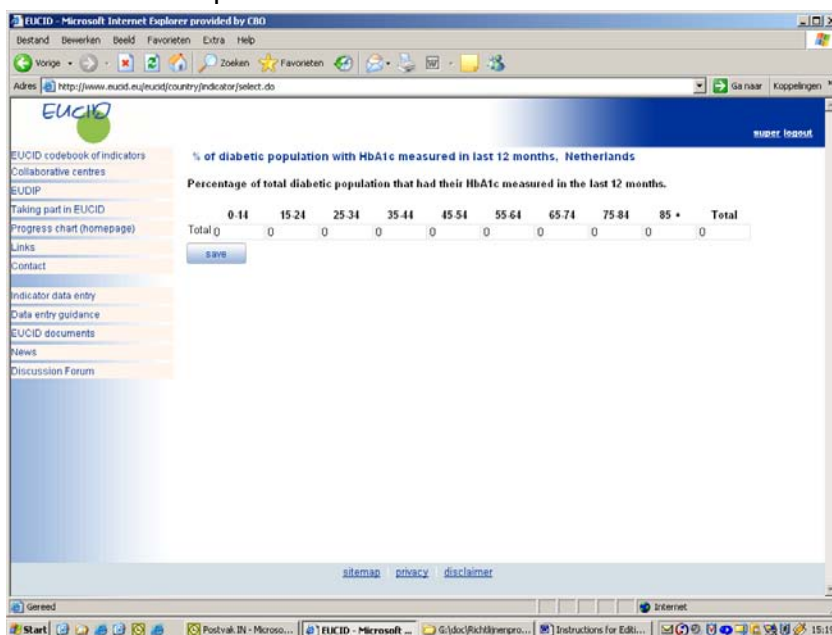
The population size was calculated for the year (preferably 2005)
year:

Step 2. Indicator data entry

You will return to the screen below with the complete list of indicators: first the name (description) of the indicator, next the status, an edit button and last the ready button. The status shows you when this specific indicator was last edited. If there was no activity in the field of this indicator yet the field will be blank. If edited before the date of the last update is shown.

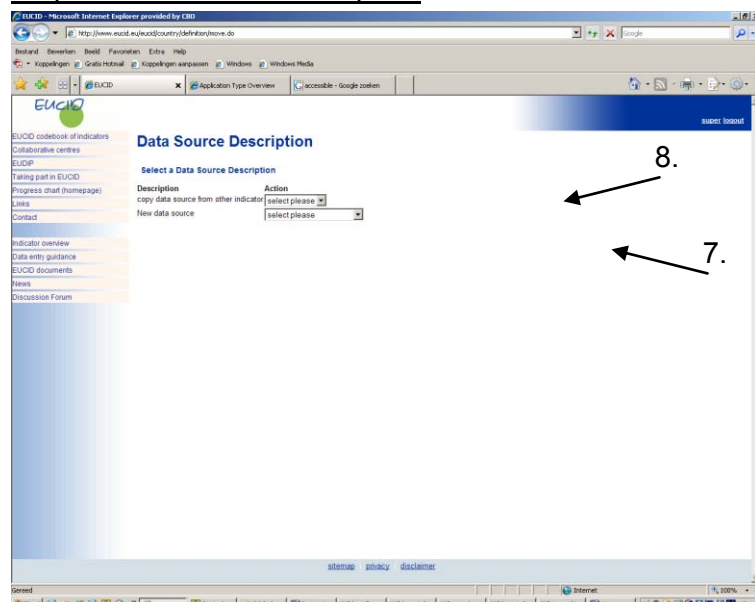


After pressing the “edit” button (arrow 5) of one of the indicators the next screen is shown. This is for example the HbA1c measured screen:



We agreed that the data should be from 2005 and if that is not possible from 2004 or 2006. If possible give age bands for all indicators. If you cannot access the age band data just fill in the “Total” field (arrow 6). When all the data are entered click the “save” button. Then the next screen will be shown. It is always possible to edit an indicator once it is entered.

Step 3. Data source description



To make sure that the data are comparable we need a description of the database where the data came from.

Clicking the “select please” button behind “New data source” (arrow 7) will bring you to a screen that gives you four options to choose from:

- National data complete
- National sample
- Regional data complete
- Regional sample

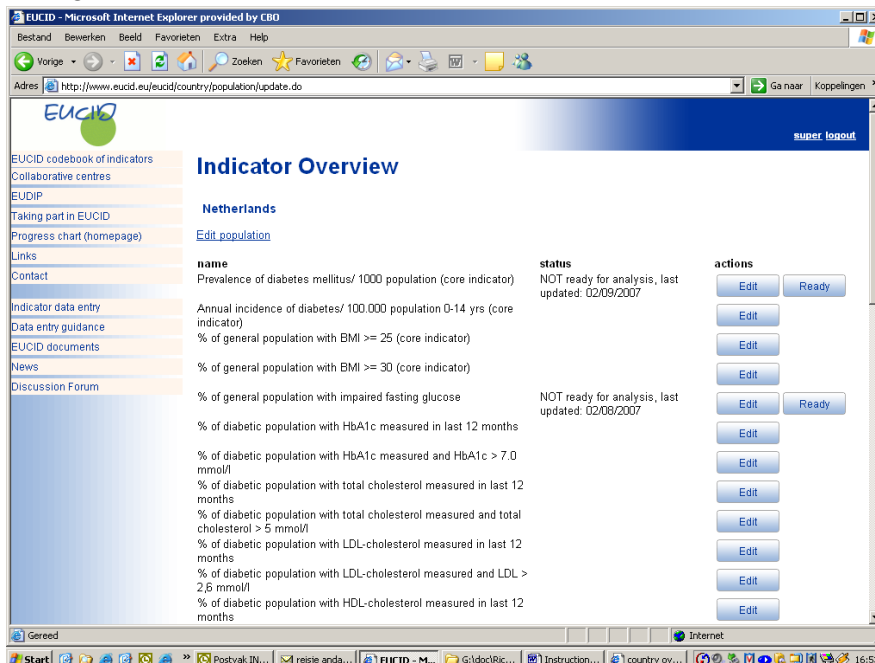
Select one option depending on regional or national data and if the database used was complete (e.g. death certificates) or a sample/survey. Depending your choice several questions will be asked. Please answer these questions and save this information by clicking “Save” at the end of the page.

If the database was already described click the “**copy data source from other indicator**” button (arrow 8) and select an indicator from the “select please” pull down menu. You will still be asked to go through the already filled fields of the source description, to make sure that there are no differences for this specific indicator.

This work has to be completed for all the indicators. As stated before it is always possible to edit an indicator once it is entered.

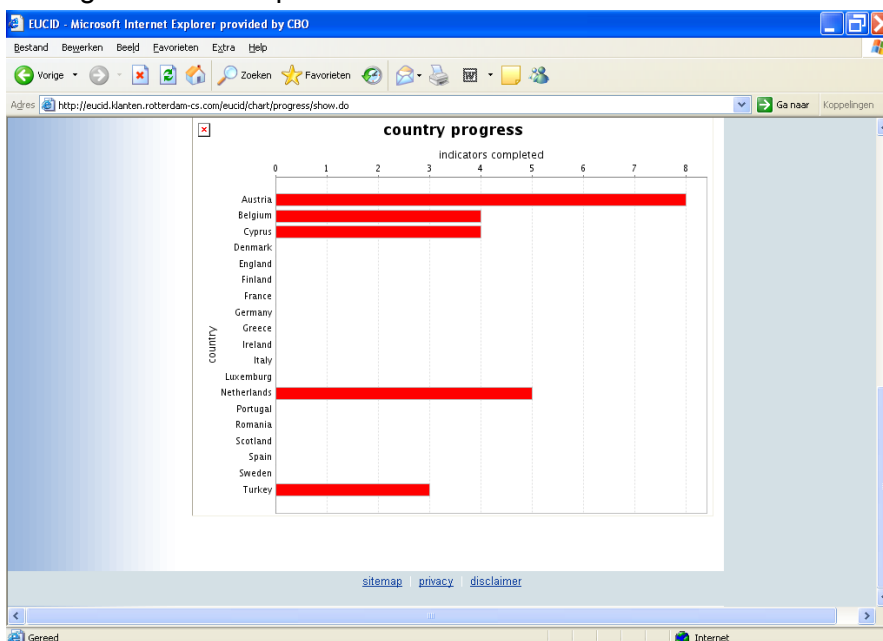
Ready?

If an indicator is totally filled in, then click the “**ready**”-button. We know then that we can use this indicator in the analyses. (It is still possible to open the indicator and make some changes).



Progress chart

To make the data entry competitive we have build in a progress chart. Since it is not possible to see the results until we have the dataset as complete as possible we have found a way to show the progress of the project. The progress bar shows how many indicators are completed for the different countries. In this way we hope that there will be a real competition amongst the EUCID partners to enter data.



Questions

If there are questions about the website or the project please sent an email to info@eucid.eu. Fred Storms, the coordinator, works only on Fridays at CBO. If the matter is urgent you can call him on his mobile phone +31 6 10123 114. Sending a fax is also possible.

Utrecht 15-01-2007

Fred Storms

EUCID project manager

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